

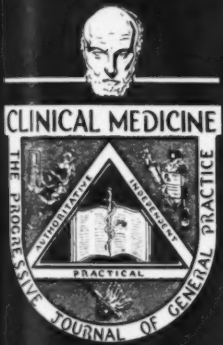
APR 8 1942



# CLINICAL MEDICINE

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## LEADING ARTICLES



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APRIL  
1942



## Settled out of court (Domestic Relations)

How often domestic riffs are caused by endocrine disorders and settled by treatment with estrogenic substances only the attending physician can say. However, this much is well known. The irritability and emotional instability so often accompanying other symptoms of the menopause can be materially relieved in many cases by administering properly adjusted doses of suitable estrogenic preparations.

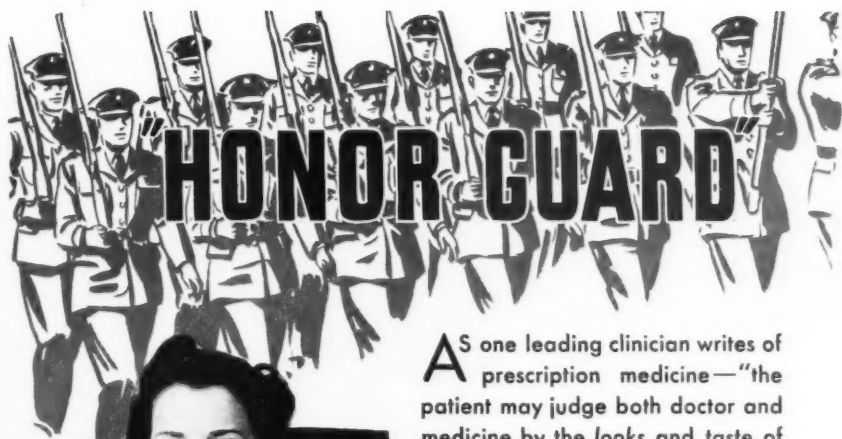
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DR. JOHN MAYOW, L.D., F.R.S.

Volume 49 ★ Number 4

A P R I L , 1 9 4 2



## Clinical Medicine

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## ★ Editorial ★

### John Mayow

#### Pioneer in the Study of Respiration

ABOUT the year 200 A.D., the eminent Greek physician and polypragmatist, Claudius Galenus, departed this life, leaving behind him an enormous collection of writings on medical and almost all other subjects, many of which were, and still are valuable, while others were decidedly less than half-baked. But in spite of his errors, the force and prestige of Galen were so great that he was the "Pope of Medicine" for 1400 years.

One of his ideas that now seem most ridiculous to us was that the purpose of respiration was to cool the fiery heart and carry off its smoky vapors through the pulmonary vein; but this conception was unquestioningly accepted until the time of William Harvey, and was not entirely exploded for some years after that, and the chief and convincing exploder was John Mayow, though Boyle, Hooks, and Lower had laid foundations upon which he built.

Mayow was born in Cornwall, England, in May, 1643, and so was a contemporary of Harvey, who died in 1657. He was educated in Law at Oxford University, taking his Doctorate in 1670, but made Medicine his profession and practiced for several years at Bath. But his fame came from his work as an experimental chemist and physiologist of true

genius. By a series of careful researches, he demonstrated that the dark venous blood, in passing through the lungs, takes up something from the air and becomes bright-red. Because he recognized this "something" as being a constituent of niter ( $\text{KNO}_3$ ), he called it "nitro-aërial spirit," but he was so close to the discovery of oxygen that he very nearly anticipated Joseph Priestly by 100 years.

As it was, he was the first man to fully grasp the fact that the object of breathing is to cause an interchange of gases between the air and the blood, the former giving up its nitro-aërial spirit and taking away noxious vapors from the blood. He was also the first to recognize that the maternal blood supplies a fetus, not only with food, but also with oxygen (*nitro-aër*), and to locate the seat of animal heat in the muscles, which fact was again demonstrated by Helmholtz in 1845.

In addition and corollary to these respiratory matters, Mayow also discovered the double articulation of the ribs with the spine, and discussed the function of the intercostal muscles in a way that now seems entirely modern.

His *Tractatus Quinque* (1674), which was translated into Dutch, German, and French, deserves to rank with the great medical classics, but

has largely been overlooked because of the obvious errors in a garbled English abstract of his Latin text, made by some hack writer for the Royal Society, of which he was chosen a fellow in 1678. He died in London in September, 1679.

It is difficult, today, for us to realize that the simple facts of anatomy and physiology, which seem so obvious to us, were not always known, and it is good for us to review the lives and labors of the men who demonstrated them and to remind ourselves that some of the discoveries of this generation will seem equally obvious and almost mythologic to the physicians and other scientists of a century or two hence.

It is a vain undertaking to build an enduring structure of thought upon a foundation of false notions.—MANLY P. HALL.

### Easy Surgery

THE surgical craft and hospital facilities have reached a state of development where astonishingly few patients die as a result of an operation itself, and exploratory laparotomies are easier and quicker than making diagnoses by the painstaking methods that made our professional fathers and grandfathers such remarkable clinicians. Moreover, there seems to be an understandable (but not always justifiable) tendency to take out something to show the patient and his relatives, while the belly is open.

In fact, surgery, which used to be a *last resort* (and, we believe, still should be, in most cases), is becoming the *first resort* of some men who are trying to take care of more patients than they can handle adequately, and of those whose knowledge and experience are scant and rather superficial. Then, too, we know that there are a few—a very few—who find “indications” for operations on a largely or wholly mercenary basis.

Nobody admires and respects the surgeons any more than we do, and this is not a “knock,” but a friendly warning to them not to be led astray by the natural enthusiasm that comes with expertness in a complex and difficult craft, to the point where they allow their trained faculties of observation and deduction to fall into desuetude by seeking the easiest (and also the most spectacular and lucrative) way out of a diagnostic difficulty *first*. “Look and see” may be an invaluable method, in some cases, but it should not be made an excuse for mental laziness and sloppy diagnosis, nor for removing the whole or parts of normal organs; and it is *not infallible*!

Most patients who actually require surgical attention can safely wait while the surgeon and internist, in *collaboration*, find out *just what* is required, and *why*; a good many *should* wait until their general condition has been raised to the point where they have the maximum chance for life and a cure; a *few* must be operated upon without a moment's unnecessary delay, if their lives are to be saved.

But even in these “emergency” cases, a peritoneoscopic examination should be made, if this

remarkable modern instrument is available, along with a man who *knows how to use it* (as should be the case in every well-equipped hospital), before the belly is actually opened. By this means, a number of “emergencies” may be found not to be so pressing as they appeared, and the patient can be saved unnecessary disability and expense.

It really seems as if the time has come to recognize and avoid the pitfalls of easy surgery.

We take every step of life with inescapable responsibility for the thing done or omitted.—LAWRENCE W. NEFF.

### Eating Between Meals

WHEN many of us were medical students, we were taught, more or less specifically (and passed this teaching on to our patients when we began to practice), that eating “between meals” was a pernicious habit that was apt to lead to stomach disorders of various kinds.

Our patients, thus instructed, carried on the time-honored custom of gorging three times a day, and “piecing” now and then when an opportunity offered, anyway. This probably did little harm to people who were doing hard physical labor every day, but the sufferings of a more or less sedentary individual, under such a regime, were graphically portrayed, some years ago, by H. G. Wells, in his “History of Mr. Polly.”

Now we know that, for most folks who earn their bread by the sweat of their brains, rather than their brows, it will be wise to eat that symbolic bread in four or five small installments, rather than in three big ones. This is especially true of the increasing legion of sufferers from true and pseudo peptic ulcer, “irritable colon,” and all the other functional digestive disorders that result from an unintelligently chosen and carelessly and hurriedly eaten diet, psychic overstress, too much alcohol and tobacco, too little sleep, and the other hygienic sins of the modern way of life.

If there should happen to be any of our readers who still adhere to the old teaching about “eating between meals,” this is a warning that it is high time to revise those ideas and to *individualize* their dietary instructions, and to remind them that, if any of their patients still harbor these old notions, such patients should have some modern instruction, also individualized.

### Teaching Hygiene to Soldiers

IN THE coming months, many physicians who are on duty at the various training camps will be called upon to give talks on personal hygiene to groups of the trainees, and will thus have an opportunity to do much good—if they utilize it properly.

Under similar conditions, a generation ago, the talks on hygiene given to the soldiers consisted almost entirely of lurid descriptions of the horrors of venereal diseases, and of warnings that they (the soldiers) must be good little boys, or, if they



couldn't be good, they must be sure to take a prophylactic treatment when they returned from leave. The results were nothing to brag about.

Hygiene is far more than a negative effort to avoid diseases, venereal and other; and no negative presentation, even though it may be much more soundly conceived than these rather puerile, and sometimes disgusting, warnings were, is apt to penetrate much further than the ear drums or optic nerve heads of the hearers or readers.

Hygiene is a positive, *dynamic* young science and, if properly presented to robust young men with reasonably clean and healthy minds and bodies, can arouse their enthusiasm and hearty cooperation, instead of the leers and sneers of boredom and ridicule that frequently greeted the negative, "preachy" orations, based almost wholly on sex.

Every sound and right-minded young man (in which class the trainees in our camps will fall, if the examining boards do their jobs adequately) is justly proud of having a fine, strong body, *all* of whose parts (not merely the sex organs) are functioning smoothly and harmoniously, and will be truly grateful to those who can teach him how to keep that body in the best possible condition.

Few men in this country have the knowledge about these *positive* phases of personal hygiene, and the enthusiasm for them, that are possessed by Prof. L. G. Kranz, of Northwestern University, but any physician who will read his article in *CLINICAL MEDICINE* for September, 1941 (page 206) can get enough of his ideas to work out a story that will appeal to the men in our camps; and if he will follow the suggestions in that article for a few weeks, *himself*, will become keen enough about them to *tell* that story in a way that will carry conviction.

This is an earnest plea (by one who knows whereof he speaks) for the abandonment, at this time, of the "sermons" and horror stories that passed for instruction in personal hygiene during the first World War, and for the development of a type of teaching in this field that will be truly stimulating, forward-looking, and constructive.

## Child Health Day

IN ACCORDANCE with a resolution of the Congress adopted in May, 1928, the President has again proclaimed May 1, 1942, as Child Health Day, and in his proclamation has made this important and significant statement.

"I call upon the people in each of our communities to contribute to . . . the reduction of illness among children by exerting every effort to the end that, before May Day . . . all children over nine months of age be immunized against diphtheria and smallpox. . . ."

Now is the time to check all the young children in the families under your care and see that all who have not been thus immunized are brought to you, promptly, for this vitally necessary service. Your State Board of Health will probably furnish the material for the immunization of children whose parents are unable to pay for it, but it is *you* who must see that this work is done for your patients, and must take an active part in educating the members of your community as to the imperative need for this protection.

If any of your patients

or acquaintances are so ignorant of modern scientific progress that they object to these procedures, give them a chance to become informed by handing them one of the simply-written, pocket-size booklets, "Serums and Vaccines," 50 of which you can obtain from *CLINICAL MEDICINE* for one dollar, so that they can learn the truth about these essential parts of the equipment of the physician of today. We also have a four-page folder, "Danger Ahead" (50 for 50 cents), which deals only with immunization against diphtheria.

If you will call the attention of your people to the paragraph in the President's proclamation that we have quoted, it should be a great help in gaining their cooperation in the protection of the health and lives of their children.

These are some of the ways in which you can assist in making Child Health Day the tremendous force for our national welfare that it was and is intended to be.

### NEXT MONTH

Dr. Russell A. Winters, of Chicago, will begin a new series of his helpful "picture articles," showing a simplified method of treating sinus disorders, that can be used by general clinicians.

Dr. Theodore S. Goldberg, of Kansas City, Mo., will discuss the modern management of arthritis.

### COMING SOON

"Pyogenic Infections in the Anorectal Region," by Charles J. Drueck, M.C., F.A.C.S., Chicago, Ill.

"Pituitary Headache," by Lolita M. Flewelling, M.D., Glendale, Calif.

★ *Leading*



*Articles* ★

## Intra-Abdominal Visualization

(Peritoneoscopy)

By

WILLIAM Y. LEE, M.D., Philadelphia, Pa.

Lecturer in Surgery, Hahnemann Medical College

Exploratory operations are dreaded by most physicians and by all patients; but there is a way to look into a patient's belly without performing a laparotomy. Dr. Lee here tells what can be expected of peritoneoscopy, so that general clinicians may know when to ask for this type of assistance.

**D**URING the past forty years, the solution of problems in the peritoneal cavity has been attempted in a rather primitive manner, which has, however, paved the way for our present satisfactory observations by means of optical instruments, electrically illuminated.

Every optical instrument has, at first, been received with a great deal of skepticism, and the peritoneoscope (see Fig. 1) proved to be no exception. In 1934 Ruddock made this great contribution to the armamentarium of differential diagnosis of the pathoses encountered in the peritoneal cavity, but its general acceptance has been rather slow, because too much was expected of this endoscopic instrument and careful attention was not paid to its limitations, as clearly advocated. In a recent survey, Robinson stated that there were, at that time, 148 peritoneoscope owners, and that, of these, 77 have performed 3570 peritoneoscopies, not including Ruddock's series.<sup>1, 2, 3</sup> This method of studying abdominal viscera has shown a steady increase and is definitely accomplishing its purpose of either corroborating or making a diagnosis, with the aid of a biopsy or by visual perception.

A successful peritoneoscopic examination is performed only by an individual who has some knowledge of mechanics, and who can interpret abnormal conditions under an artificial light. To do the latter, a careful study of macroscopic pathology at the autopsy table, for one to two years, combined with a good, working, practical knowledge of surgery, is essential. Failures and disappointments have resulted from the indiscriminate purchase of these instruments by physicians, after having merely observed an experienced operator who can evade difficulties during instrumentation and label the pathologic process with reasonable accuracy. A biopsy will often settle one's doubts as to what was seen.

### Selection of Cases

Too much stress cannot be placed upon the proper selection of cases for peritoneoscopy and a clear knowledge of the information sought through

this procedure. It is paramount that the following indications and contraindications should be followed implicitly.

#### Indications

- 1.—All cases of ascites.  
(Examine all fluids cytologically).
- 2.—Malignant tumors of the pelvic organs, colon, and stomach.  
(Determine the presence or absence of metastases).
- 3.—Diseases of the liver, gallbladder, and spleen, with or without jaundice.
- 4.—Abdominal masses, intra- or extra-peritoneal.
- 5.—Hemoperitoneum.
  - A. Ectopic Pregnancy.
  - B. Abdominal injury.
    - a. Ruptured spleen.
    - b. Traumatic peritonism.
- 6.—Diseases of the female adnexa.
- 7.—Anatomic anomalies.

#### Contra-Indications

- 1.—Acute intra-abdominal pathoses.
- 2.—Extensive postoperative adhesions.
- 3.—Cardiac decompensation.

### Upper Abdominal Examination

#### Liver

The liver, being the largest organ, comes readily into view, unless the omentum lies directly on it or some previous operative interference has set up impassable adhesions. The omentum can be brushed away with the telescopic light. The liver is usually pushed away from the diaphragm by the air introduced by the Baumomanometer bulb.

The organ is examined in regard to color, size, and surfaces. The color may be pale, because of anemia; fiery-red, because of a chronic passive congestion or from von Gierke's disease; or mottled-brown, from an intense bile stain, because of an obstructive biliary cirrhosis.

*Enlarged livers* have been seen in chronic passive congestion, portal cirrhosis, hepatosplenopathies, biliary cirrhosis, von Gierke's disease, hepatomas, and leukemias. *Small livers* were found in atrophic cirrhosis and acute yellow atrophy.

A number of pathologic processes can be observed on the surface of the liver, though not necessarily in the order in which they are mentioned here: (1) The surface of the liver may appear like a spiderweb formation of whitish fibres, which identifies no definite liver pathosis and can be interpreted as *capsulitis*, for biopsies show no definite change in the liver structure; (2) typical



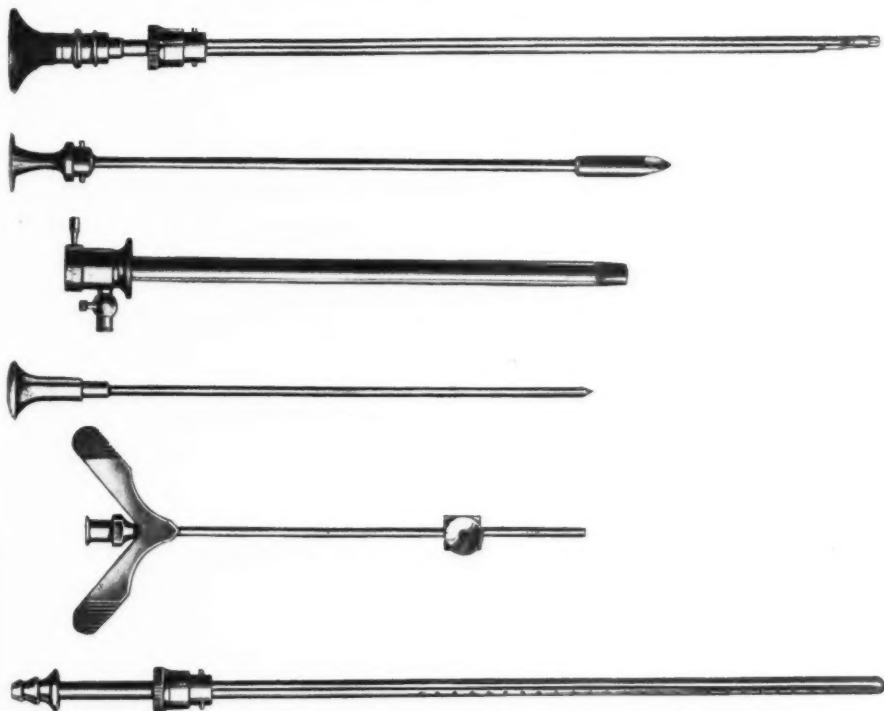


Fig. 1: Essential parts of the Peritoneoscope: From above down; Special Foroblique examining telescope; trocar and cannula; pneumoperitoneum trocar and needle; aspirator.

*cirrhosis* is not hard to recognize, as it resembles cobblestones of various sizes or has a hobnail appearance; (3) implants, or *metastases*, vary in size and color, some of these nodules being large and umbilicated, white or yellow in color, while others are very fine nodules which resemble minute tapioca. (Early metastatic infiltration usually occurs at the edge of the liver. In one case, a large implant was located on the falciform ligament, which had eroded to the other side of the ligament); (4) *caseous tubercles* have been noted in the liver; (5) a non-parasitic cyst, which transmitted light and contained 8 cc. of clear fluid, was seen on the under side of the right lobe of the liver, and the use of invert sugar as a sclerosing solution was considered at the time, but was not carried out. (The correct diagnosis of cysts of the liver is difficult, usually being made at operation or at autopsy. Montgomery suggested the use of the peritoneoscope as a diagnostic help and injection of Zenker's solution as a sclerosing agent); (6) a large collection of fluid between the leaflets of the falciform ligament was recognized and confirmed at operation; (7) drainage of a liver abscess by means of a needle or small trocar inserted into the abscess, under direct vision, has been reported.

#### Gallbladder

The gallbladder, unless there has been a previous inflammatory process, is seen while observing the inferior surface of the right lobe of the liver. It may be temporarily hidden by the

omentum, which can be brushed aside with the telescopic light. Its color, size, location, and thickness are noted and, on rare occasions, the cystic duct has been seen. The normal color is blue, but it may be white, yellowish, or pale blue. The size varies, depending on the pathologic process present. A small gallbladder indicates an intrinsic lesion, with or without stones, while a large one may point to a carcinoma of the head of the pancreas or to a silent stone in the common duct. Congenital bands attached to the gallbladder, which Whitaker<sup>8</sup> believes are found in about one-quarter of the population, are also visible. Many produce no symptoms, but it is almost certain that some do. Steiner reported<sup>9</sup> that he was able to palpate stones in the gallbladder.

#### The Stomach

This organ, normally greyish in color and pliable to the telescopic tip, rises and falls with inspiration and expiration, and presents two curvatures. Through the peritoneoscope, peristalsis and pulsations of the vessels can be observed, and the pyloric vein has been seen. Any deviation from the normal conditions must be considered. Thus, absence of peristalsis and the location of any constant point of irregularity along the greater curvature is extremely suggestive of an intrinsic lesion, probably malignant. Should the growth be large, the stomach will remain stationary during the respiratory cycle, and the wall of the stomach will be board-like to the palpatory telescope and painful to the patient. An *enlarged* stomach may indicate either

a cicatricial ulcer at the pylorus or a carcinoma. When the anterior surface of the gastric wall is

the most frequent sites of metastases were in the liver (136 cases) and the regional glands (101



Fig. 2: Biopsy forceps with operating telescope.

extremely pale, or has reddened areas intermingled with pale areas, and is resistant throughout to the palpatory tip of the telescope, the possibility of a *linitis plastica* must be considered.

Ruddock<sup>1</sup> has suggested the following triad as necessary to make a decision as to the operability of cancer of the stomach, provided no metastases are demonstrable in the skin, glands, lungs, or bones:

1. Are there metastases in the liver?
2. Is there extension to adjacent tissues and the peritoneum?
3. How much of the stomach is *not* involved?

The last can be solved either by a gastroscopic examination or by a combination of peritoneoscopy and gastroscopy. Thieme<sup>2</sup> believes that peritoneoscopy should be routinely carried out in carcinomas of the stomach, to avert operation in the inoperable cases.

Two carcinomas of the lesser curvature of the stomach were seen in a peritoneoscopy, and confirmed at operation. These patients had undergone gastroscopy and a thorough gastro-intestinal study, in the course of which the lesion was not observed.

#### *The Omentum*

The omentum may cover any or all of the abdominal organs, but it can be moved around with the tip of the telescope without any discomfort. Frequently implants are found in it, and in some cases it is so heavily infiltrated that it assumes a coxcomb appearance. Omental adhesions may be released with the tip of the biopsy forceps (see Fig. 2), using either a cutting or a coagulating current, provided the adhesions are not too dense and not too intimately connected with a hollow viscus.

#### **The Lower Abdomen**

##### *The Colon*

The question has arisen as to the value of this procedure in growths of the colon. It is quite obvious that, in the presence of an obstructing lesion, it should not be considered at any time; but when there is a growth, it is certainly valuable to determine the location and extent of metastases prior to surgical intervention. Buirge,<sup>3</sup> in a review of 416 cases of carcinoma of the large intestine, found secondary deposits in 240 cases, the remaining 176 being localized. Observations showed that

cases). Figure 3 shows a semidiagrammatic view of the belly cavity, and points in technic.

The size of a colonic growth has no bearing on the extent of its metastases. Small lesions on the anterior wall of the sigmoid usually metastasize in the liver much more rapidly than the large growths of the posterior wall or those practically occluding the lumen of the colon. It is utterly impossible to secure any information concerning metastases to the vertebral or pelvic lymph nodes by peritoneoscopy.

#### *The Appendix*

The appendix is not frequently seen. If desired, it can be located more frequently by using a web-footed elevator, depressor, or retractor, which Robinson<sup>4</sup> has utilized successfully in the study of the female adnexa, spleen, stomach, or gallbladder (see Fig. 4). This elevator is independent of the peritoneoscope, being used solely for the displacement of viscera and introduced through a separate puncture wound.

In a recent report of 125 cases, Hamilton advocates the use of the peritoneoscope in the differential diagnosis of appendicitis and salpingitis. This is a rather dangerous procedure, as the inflation of air in the peritoneal cavity would favor the spread of any pathologic process which might be trying to localize itself.

#### **The Pelvis**

In order to facilitate the study of the normal or pathologic conditions encountered in the pelvis, the operating table may be tilted to one side or the other, to get a better view than the Trendelenberg position alone affords.

To make an accurate study of the female generative organs is extremely difficult if the pelvis is deep or if there is a large, sagging urinary bladder or a redundant pelvic colon. The use of the palpating hand in the vagina or in the rectum, causing pressure, very often will aid (see Fig. 5); and transillumination of the vagina is another help in more clearly outlining pelvic pathoses.

An intrauterine pregnancy presents a smooth uterus, whose muscular fibres are prominent. The relationship between the fallopian tube and the round ligament, which are parallel under normal conditions, is changed as the uterus enlarges.

The telescopic light can be used to sweep aside

a redundant sigmoid or ileum or both, or to lift the uterus forward, so that the anterior surface of the rectum can be seen. Robinson's instrument can be utilized here to great advantage.

The ovary can often be easily seen, or it may be brought into view by using the light of the telescope to raise the fallopian tube until the latter is taut. While the telescope is rotated, a fair estimation is made of the ovary's size and color.

tered in the pelvis is that of *ectopic pregnancy*. As Scheffey, Morgan, and Stimson<sup>11</sup> wrote: "Even today, the enigma of ectopic pregnancy confronts us as a diagnostic problem." Likewise, Bubis<sup>12</sup> maintained that early diagnosis is difficult, declaring: "In many cases with typical textbook symptoms, I found no extra-uterine pregnancy." In further recognition of this problem, Urdan<sup>13</sup> has stated: "The knowledge of ectopic pregnancy is

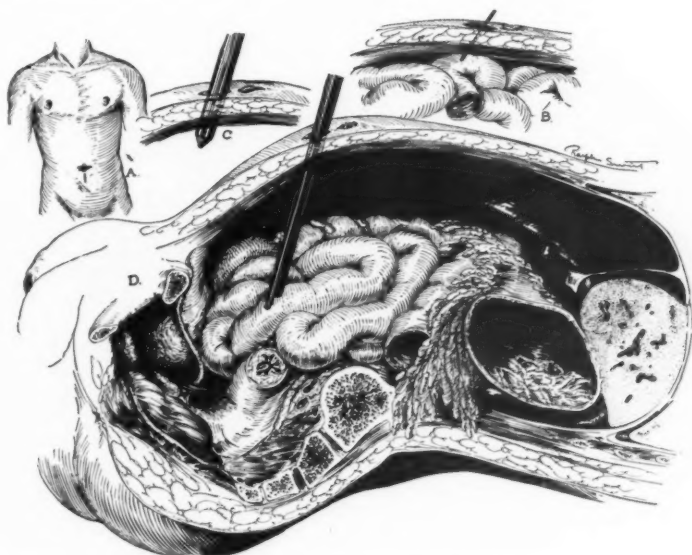


Fig. 3: (A) Usual site of puncture; (B) insertion of the pneumoperitoneum needle; (C) insertion of trocar; (D) visualization of the peritoneal contents.

The value of a thorough study of the pelvis by this method cannot be overlooked under present circumstances. It is well known that the symptoms of *cystadenoma of the ovary* are insidious in onset and, for that reason, any woman complaining of lower abdominal pain, whether she has a backache or not, should have a thorough vaginal examination; and, according to Meigs,<sup>9</sup> "Any doubtful pelvic examination should be checked by peritoneoscopy, so that cases can be diagnosed earlier and operated upon." He believes that "cancer of the ovary, if found early, is curable, for it is often found encapsulated in the ovary and is not serious until the cyst is broken or perforated and the tumor has grown through the wall."

In the study of *endometriosis*, peritoneoscopy should be considered as an aid to an accurate, detailed history, with inspection and palpation of the pelvic organs. Hurd<sup>10</sup> states, "The diagnosis of endometriosis is difficult at best, in the majority of cases." Moreover, many gynecologic conditions, such as simple follicular cysts of the ovary, ovarian hemorrhage, cysts of Morgagni, fibroid uterus, pelvic inflammatory disease, normal intrauterine pregnancy, extra-uterine pregnancy, papillary cystadenomas, varicosities of the broad ligament, pelvic tuberculosis, absence or malformation of organs, and ovulation, can be differentiated.

Among the many diagnostic problems encoun-

complete, but the diagnosis is still a difficult problem." It is quite evident that, in the differential diagnosis, one must rule out many normal or pathologic conditions which can be readily eliminated with the peritoneoscope.

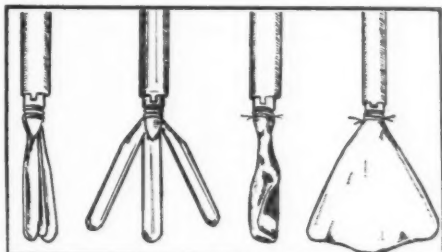


Fig. 4: Peritoneoscopic retractor: From left to right: Blades in collapsed position; blades spread; collapsed blades covered with ligated latex rubber bag; blades spread within the bag.

Other possibilities present themselves for consideration in relation to the pelvic examination. For instance, Ruddock<sup>1</sup> believes that the sex of a *hermaphrodite* may be determined definitely and accurately; and he also feels that, in cases of *hirsutism* in young women, one is justified in examining the ovaries and taking a biopsy from

them, in order to discover, if possible, the presence of an *arrhenoblastoma*.

current. Biopsies have been satisfactorily obtained, the specimen removed with prompt reinsertion of

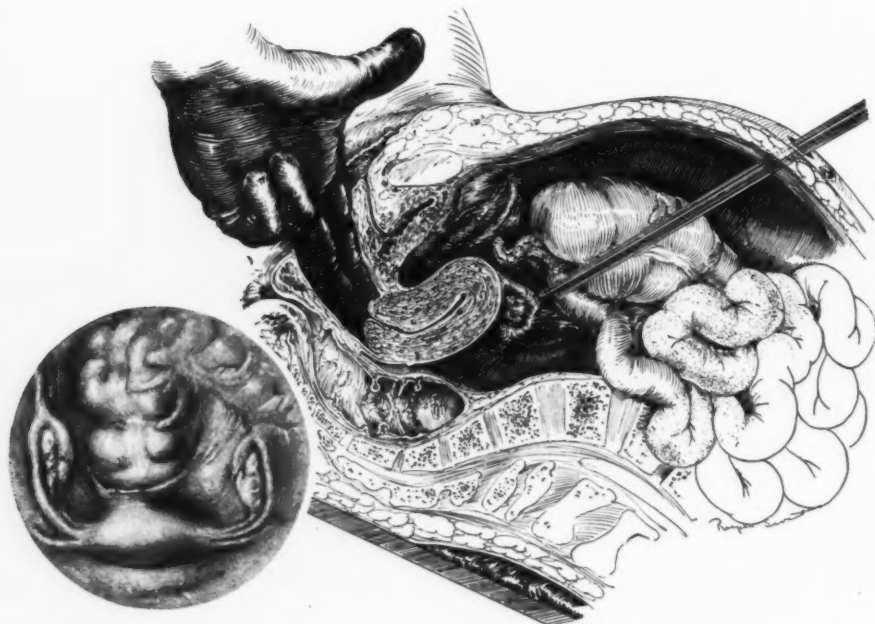


Fig. 5: Pelvic examination, with hand in the vagina. Insert shows appearance of pelvic organs through the Peritoneoscope.

### Ascites

Ascitic fluid is now removed with the fluid aspirator, and is always sent to the laboratory for cytologic examination, but the results of such studies have been rather disappointing. Under the method here advocated, the introduction of air into the peritoneal cavity following aspiration is always well tolerated.

Ascites is usually found in cirrhosis, hepatomas, hepatosplenopathies, malignant tumors of the stomach and colon with metastases in the liver, miliary tuberculosis, and malignant neoplasms of the pelvis.

### Biopsies

It is advisable to secure tissue for microscopic examination from solid organs, such as the liver, spleen, uterus, or ovaries, and biopsies may be obtained from the omentum or peritoneal surface, but they should be taken only where thorough cauterization can be assured (see Fig. 6). Ruddock lost one patient from a fatal hemorrhage, through failure to cauterize completely an area in the liver where a malignant metastatic nodule was located. Benedict<sup>14, 15</sup> has even made a biopsy of a gland along the greater curvature of the stomach.

When a biopsy is attempted, it should be secured from the most accessible part of the organ, so that proper cauterization can be accomplished. When instant cauterization takes place after a specimen is secured, the edges of the tissue are extremely devitalized, but Ruddock states that biopsy material is not affected by the coagulation

the instrument, and coagulation done afterwards, with no fatalities. The immediate immersion of

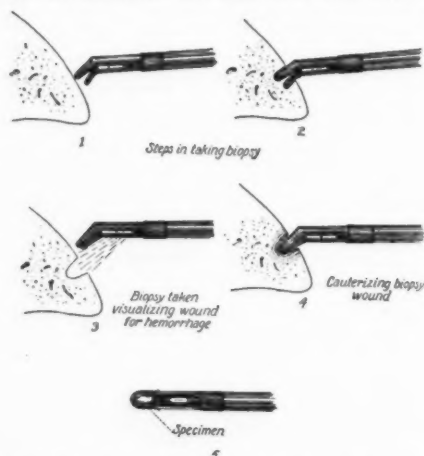


Fig. 6: Technic of taking biopsy and cauterizing wound through the Peritoneoscope.

liver, spleen, and ovarian tissue in 95-percent ethyl alcohol for twenty-four hours has helped considerably in securing better slides for microscopic study.

Here follows a resume of the cases in which I have performed peritoneoscopy:

Age range ..... 5 years to 81 years  
Children ..... 2 cases

#### Sex

Males ..... 146 cases  
Females ..... 202 cases

Total ..... 350 cases

#### Diagnosis

Correct diagnosis, checked with biopsy, surgery, or autopsy ..... 137 cases

Incorrect diagnosis ..... 14 cases

Biopsy taken ..... 45 cases

Not fully checked ..... 199 cases

Mortality rate ..... 2 cases

#### Conclusions

Visualization of the peritoneal cavity has definite limitations. The pathoses encountered should be interpreted only by one who can differentiate macroscopic lesions and who has had training in surgery.

Peritoneoscopy has proved valuable in obscure and questionable cases of pelvic disease and of growths in the lumen of the colon and stomach, for determining the extent of implants, and has permitted, either by direct observation or by means of biopsies, the differentiation of disease of the hepatobiliary tract.

This procedure is ideal in three situations: (1) In patients who are poor surgical risks, as it is carried out under regional anesthesia with little

discomfort and pain; (2) in inoperable cases, as it has eliminated unnecessary surgery; and (3) as a postmortem instrument, as suggested by Fiske,<sup>9</sup> when an autopsy is refused.

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1113 Medical Arts Bldg.

## Notes from a Regional Meeting of the American College of Physicians

Reported by George B. Lake, M.D., Waukegan, Ill.

Helpful clinical points, not to be readily found in more formal literature, are often brought out at small meetings like the one here reported.

A ONE-DAY regional meeting of fellows and associates of the American College of Physicians in Illinois (and a few from nearby states) was held at the New Wesley Memorial Hospital, Chicago, December 6, 1941, with an attendance of from 150 to 200. There were no exhibits.

The meeting started at 9 A.M. and all papers and talks were limited to ten minutes (those in the symposium on Medical Progress, reported in *CLINICAL MEDICINE* for January, 1941, page 6, to five minutes), which made things go with an unusual snap.

Luncheon was served at the Hospital at noon, enlivened by discussions of questions that arose out of the morning session. Afterward we were taken on a tour of the splendid new building (see Fig. 1), which had been occupied for only a few weeks and which embodies all the latest words in hospital construction.

Following the afternoon session there was a lively cocktail party and a fine dinner at the Knickerbocker Hotel, near by, winding up promptly at 9 P.M. and completing a memorable day of instruction and fellowship. The College is to be congratulated for its hearty encourage-

ment of regional meetings such as this, which should, and no doubt will, be further developed and generalized.

Here follow abstracts of a few of the brief clinical papers that I believe will be of the greatest practical interest to our readers.

#### ACETANALID AND AMIDOPYRINE POISONING

By V. Thomas Austin, B.S., M.D., F.A.C.P., Urbana, Ill.

ACETANALID and amidopyrine are not always the practically harmless drugs that many physicians believe them to be. In susceptible persons they may cause severe toxic symptoms, especially when they are used together.

Chronic acetanalid poisoning may produce cyanosis, lassitude, depression, headache (forming a vicious circle), anorexia, insomnia, and gingivitis; while in chronic amidopyrine poisoning we may find splenomegaly and neutropenia, occurring in episodes. There may also be definite addiction, with withdrawal symptoms.

#### Case Report

A woman was seen who showed definite psychotic symptoms; anemia (hemoglobin 33 percent); dyspnea; gingivitis, so severe that all her teeth were loose; convulsions; and a spleen extending three finger-breadths below the ribs. She



had been taking 12½ grains (0.81 Gm.) of amidopyrine and 12 grains (0.78 Gm.) of acetanilid, daily, for years. All of her symptoms disappeared when these drugs were withdrawn.

### EMOTIONS AND DISEASE

By F. J. Braceland, M.D., Sc.D., F.A.C.P., Chicago, Ill., Clin. Prof. of Psychiat., Loyola Univ. Sch. of Med.

A large percentage of the patients in any medical practice suffer from more or less severe psychoneuroses, so all clinicians need to know about the part emotions may play in disease.

The psychosomatic viewpoint considers the patient as a whole individual, in his environment. The era of ultra-scientific materialism, which is gradually passing, saw many patients, meticulously treated physically, who did not get well.

Most patients are sick both physically and psychically. Some cases labeled allergy, peptic ulcer, and a number of other definitely physical disorders are results of psychic stress, so we must remember that longstanding psychic disturbances can cause organic disease.

Most of the so-called "nervous troubles" are due to the patient's failure to grow up psychically, though the individual may be an intellectual giant. These cases are not, therefore, due to mental weakness, but to emotional unbalance and infantilism.

### STIMULANTS IN BARBITURATE POISONING

By Richard K. Richards, M.D., North Chicago, Ill., Chief Pharmacologist, Abbott Labs.

ACUTE barbiturate poisoning, with depression of the medullary centers, is common, and individual susceptibility is an important factor.

In many cases, death is secondary (occurring after four or five days), and is due to partial paralysis of the lungs.

Stimulation will save many lives, even if it does not shorten the duration of the coma. For this purpose, picrotoxin\* and metrazol are the best drugs to use.

When a patient is seen in coma, twelve hours after an overdose of a barbiturate, he should be put in a bed with the foot raised; heat should be applied; dextrose solution should be given intravenously; and, if picrotoxin or metrazol is not immediately at hand, should be given 1/100 grain (0.65 mg.) of atropine, hypodermically, two or three times a day; or possibly strophanthin.

Picrotoxin should not be given in sufficient doses to awaken the patient completely. For this purpose (if it seems best to do so), metrazol is better. We should remember that both of these powerful stimulants are also convulsants, and proceed carefully, always having a dose of a barbiturate, ready-prepared for parenteral administration, at hand for use as an antidote if symptoms of an overdose of the stimulant should appear.

### IRRADIATION OF THE PITUITARY AND ADRENALS IN ESSENTIAL HYPERTENSION

By James H. Hutton, M.D., F.A.C.P., Chicago, Ill.

DURING the past seven or eight years, my associates and I have treated 698 cases of essential

hypertension with very small and repeated doses of x-rays, applied to the pituitary and adrenal glands.†



Fig. 1: The New Wesley Memorial Hospital, where the meeting was held.

Nearly all of these patients have experienced marked symptomatic relief, even when the decrease in their blood pressure was slight, and this improvement has been maintained for as long as 7 years, in some cases, with an average of 27 treatments.

On the other hand, bilateral sympathectomy produces an immediate, and sometimes dramatic, reduction in the blood pressure which, however, returns to its former high level in a few months.

Patients in whom diabetes (glycosuria) was present, along with the hypertension, have experienced definite relief (perhaps even a cure) of the former condition under this treatment.

In menopausal headaches, these "ridiculously small" x-ray treatments will reduce the amount of estrogens needed to keep these patients comfortable.

### STILBESTROL

By Drs. S. G. Taylor and W. O. Thomas, Chicago, Ill.

STILBESTROL, given by mouth in daily doses of from 1 to 3 mg., is effective in most cases where estrogen therapy is indicated. It is best to give this synthetic drug, in the doses suggested, for three weeks, then give the patient a rest for one week, and repeat. If slight uterine bleeding ("spotting") occurs, the treatment should be stopped at once.

†For full particulars as to the technic of this treatment, see Dr. Hutton's article in CLIN. MED. & SURG., Dec., 1937, page 533.—G.B.L.

\*See article by Dr. A. H. Maloney, in CLIN. MED., Feb., 1941, page 34.—G.B.L.



Stilbestrol relieves menopausal symptoms, even if it does not normalize the vaginal epithelium to the same extent as that seen following the use of true estrogens.

There is no proof that there is serious danger

from the use of stilbestrol. Nausea sometimes appears early in the treatment, but it subsides after the first week, as the treatment is continued. When the drug is used immediately postpartum, to inhibit lactation, it is well tolerated.

## Sulfathiazole, Locally, in Colds

By

R. S. MACARTHUR, M.D., C.M., Los Angeles, Calif.

The common cold is one of the chief causes of loss of time and efficiency among workers, so any suggestion that bids fair to lessen the period of disability and infectiousness in these cases, such as this by Dr. MacArthur, deserves serious consideration.

**C**OLDS are air-borne and the vehicle is condensed droplets of infected nasopharyngeal secretion. The portal of entry is the nasal mucous membrane, the actual invasion taking place either through minute abrasions in the surface or by absorption through the intact cell membrane. After passing through the epithelium, the infection is disseminated locally by the submucous lymphatic network to the adjacent mucous membranes of the sinuses and pharynx. Secondary invasion by other organisms which are normally present in the respiratory tract, or are also air-borne, nearly always occurs. The symptoms are too well known to need elaboration.

The development of the sulfonamides has been the most dramatic event in medical history. They have been accepted and applied in the treatment of millions of persons suffering from many and varied diseases within a few years.

The specific bacteriostatic action of sulfathiazole upon staphylococci and streptococci, when given in therapeutic doses, is well known. Less familiar is the effect of this drug when applied locally and in weak solutions.

An incentive to the study of localized sulfonamide therapy was the appearance, in September, 1941, of an article in the *New England Medical Journal*, by N. C. Stevens, titled "Use of Sulfanilamide Spray in Treatment of Colds." Dr. Stevens said:

"During the early part of 1941, a spray of sulfanilamide for the nose and throat was used in the treatment of colds among the students of a school. Beginning at the same time, the school showed the best health record of any year since its founding, in 1934. To make the spray, three 5-grain tablets of sulfanilamide, or two 0.5 gram tablets of sulfathiazole, were dissolved in one ounce of distilled water. The solution was used every two or three hours for 48 hours. The majority of colds and sore throats cleared up in about half the usual time."

In the April 26, 1941, issue of the *Journal of the American Medical Association*, Turnbull reported the results of his treatment of sinus infection with a 5-percent sodium sulfathiazole spray. Among 47 patients with chronic sinusitis, all but 7 reported definite improvement and relief of symptoms. The solution caused no irritation or congestion, but was unstable and was affected adversely by light and air, so it was necessary to evolve a medium which would carry the sulfathiazole, and also some means to protect the product from deteriora-

tion by light and air. Such a medium is a water-soluble jelly, and the container an ordinary collapsible tube of the tooth-paste type.

In September, 1941, a 3-percent sodium sulfathiazole water-soluble jelly, in a sealed collapsible tube, was originated. This jelly is stable, being protected from light and air. Experimentation

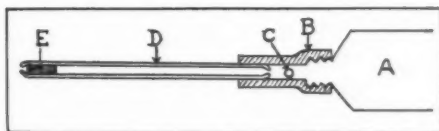


Fig. 1: MacArthur's applicator: A, collapsible tube containing jelly; B, soft-rubber cap; C, vent-hole; D, glass applicator; E, solid plunger (black).

showed that, when the jelly is placed in the nasal passages by means of an applicator, it exerts a bacteriostatic action upon both the primary and secondary invaders, and the patient is usually free from symptoms of the cold within 48 hours or less.

The applicator is so constructed that the patient receives a measured dose of 7 minims of the jelly in each nostril (see Fig. 1). The screw cap is removed from the tube, A, containing the jelly, and the rubber cap, B, is screwed on; the glass applicator, D, constricted at both ends so that the plunger, E, cannot escape, is then inserted into the lumen of the rubber cap, with the plunger next to the tube, and the tube compressed from the bottom, filling the applicator with jelly (a finger is held over the vent-hole, C, to prevent the escape of jelly); the applicator is then reversed and the distal end is inserted well into one nostril; a finger is held over the vent-hole and the tube again compressed, ejecting the jelly in the applicator and refilling it at the same time; it is again reversed and the process repeated. This should be done three times a day, especially at bedtime.

Sequelae, such as laryngitis and bronchitis, do not develop. Where bronchial irritation has already been initiated, the sipping of a small amount (1 cc.) of the sulfathiazole jelly every few hours will ameliorate the distressing cough. Pharyngitis is similarly relieved by sipping.

The average dose of sulfathiazole in each nasal application is about 1/5 grain (12 mg.), and in each cubic centimeter sipped, about 1/2 grain (32 mg.).

It is astonishing that such a small dose of this drug, applied locally, would have such a beneficial effect. Carroll, Kappel, and Lewis showed that tablets of 0.5 gram (7 1/2 grains) may be administered, in convenient doses, to babies and children, and they believe that 2 grams (30 grains) a day, for children between the ages of two and five years, are sufficient.

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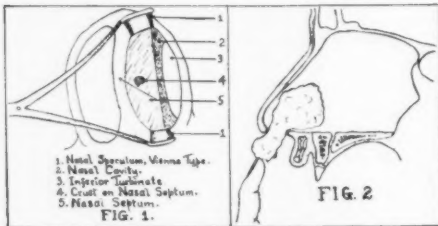
# Treatment of Nosebleed

By

R. L. GORRELL, M.D., Clarion, Ia.

Severe nosebleed almost always frightens parents and other members of the patient's family, as well as the patient himself, and also confuses the attending physician. Dr. Gorrell gives brief and helpful suggestions for its control.

**NO NASAL** treatment of any kind should be attempted in cases of nosebleed until the internal landmarks, as they appear through a speculum, are seen and identified (see Fig. 1).



Removal of the crust shown in this figure is followed by steady oozing.

The first step in trying to control nasal bleeding is to compress both nostrils firmly against the septum with the thumb and finger, and hold them so for 5 minutes.

If this fails, the bleeding nostril may be plugged with cotton, either dry or soaked with hydrogen peroxide or epinephrin solution 1:1,000, packed in with the finger (see Fig. 2).

If bleeding continues after this maneuver, apply a 2-percent solution of Butyn, or 5-percent cocaine, or a few cocaine crystals to the bleeding point with a cotton-tipped applicator, and then apply a 25-percent solution of silver nitrate, or trichloroacetic acid, in the same way.

If these simple measures (which can be applied in the home) do not control the hemorrhage, the patient should be taken to a hospital, where the clotting time of the blood and the bleeding time can be tested (so that measures can be taken to correct any systemic condition so discovered), and more extensive treatment instituted, such as packing the nasal cavity with a *Casselberry nasal packer*, after the manner of De Lee's method of packing the uterus, as shown in Fig. 3 (adapted from Morrison).

The cloth bag is placed inside the rubber bag and the two are inserted into the nostril with the cannula of the packer, directing it upward and backward. A long, narrow, continuous strip of gauze is then packed snugly into the bags with the packer, so that the nostril is firmly occluded. The purpose of the bags is to prevent the packing from sticking to the mucous membrane and permit its easy removal.

A simpler modification of this method consists of using a large finger cot or a condom for the

rubber bag, passing it into the nostril on a soft-rubber catheter, and then inflating it with air or

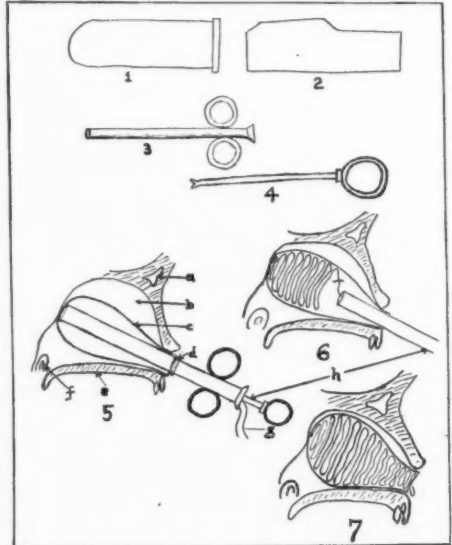


Fig. 3: Packing the nose (Casselberry method): (1) Thin rubber bag; (2) thin cloth bag; (3) cannula and (4) packer of Casselberry instrument; (5) packer and rubber bags inserted [(a) frontal sinus; (b) nasal cavity; (c) rubber bag; (d) edge of cloth bag; (e) hard palate; (f) opening of eustachian tube; (g) 1/4-inch gauze strip; (h) the packer]; (6) bags partially filled with gauze; (7) bags tightly packed and gauze strip cut off flush.

packing with gauze, using a narrow-bladed dressing forceps.

For the *permanent closure* of a nasal bleeding point, it may be cauterized with an electric cautery (see A, Fig. 4), or 10-percent phenol in oil may

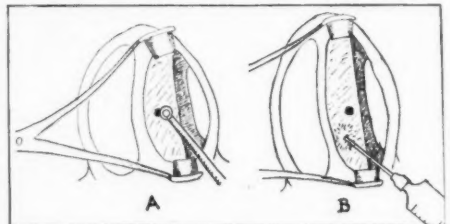


Fig. 4: Cauterizing (A) and injecting (B) the bleeding point.

be injected under the nasal mucosa on the septum (B, Fig. 4). Either of these methods will produce scar tissue.

# A Living for the Doctor

## The Business of Medicine and the Art of Living

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### Technic of Collection

THE physician extending credit as freely as he is asked to do, naturally accumulates many accounts, a certain number of which will be absolutely uncollectable. In many instances, particularly in small communities, the doctor is well aware of this possibility at the time.

The remaining accounts fall into two categories: First, those patients who pay cash, and those who use the installment plan and pay regularly. This group is no worry to the physician. There is, however, a second group which *can* pay cash and does not, and installment payers who require constant reminders.

The doctor's first interest is in the patient's physical condition, so it seems difficult for him to obtain necessary information as to the person responsible, type of business, and the correct address. An efficient office assistant would aid materially in getting this information. An interview as to the method of payment desired could be handled easily at this time. The physician should be able to make an approximate estimate of what the charges might be.

A business interview, at the *earliest possible opportunity*, by the doctor or his assistant, would result, in many cases, in a down-payment, thus establishing a sound basis for regular future payments. There seems to be a strange correlation in the fact that, after some amount is paid, the patient assumes the attitude that he is redeeming an investment made in him by the doctor and is eager and ready to continue paying the balance of the account. This applies specifically to people who are interested in establishing and continuing their credit rating.

The idea of getting something for nothing appeals to us all, so a discount system, judiciously used, is often an added inducement for prompt payment of the account in full. In cases where installments are small, regularity may be encouraged by offering a discount in the form of cancellation of the final payment.

Time is an important factor in collection. The old adage, "Strike while the iron is hot," is particularly applicable to the problems of a professional man. The patient is always most appreciative at the time services are rendered, for realization of how much has been done for him is then clear, while later it becomes hazy, as buying good health is not like the purchase of some tangible article that is constantly before one's eyes.

In many instances, medical bills should be sent out other than at the first of the month, when all trade and labor bills come in. The mistaken idea of many people that doctors are the last to be paid, finds the medical bill laid aside, giving priority to other statements. After two or three statements have gone out with no results, a polite or friendly but firm reminder, in the form of a letter, should be sent. Personal circumstances should be taken into consideration. These letters must be *short*.

When statements and friendly letters are unsuccessful, it often becomes necessary to resort to personal calls, through which the doctor or his representative will get a true picture of the financial circumstances of the patient or responsible person. Where a representative is employed, he must be tactful and honest. In cases where the necessary information has not been recorded, it is a good policy to inquire at the patient's trading center as to his financial standing and business habits before making a call. With this information, the representative is able to make a diplomatic approach as to the amount and method of payment, without antagonizing the patient.

As a last resort it sometimes becomes necessary to employ legal aid, but before taking this step, it is advisable to make certain that the account is uncollectable by all other means, for it does not make a happy situation for the physician or the patient.

ARCHIE F. JOHNSON  
Dept. of Bus. Administration,  
Jackson Clinic

Madison, Wis.

[We are firmly convinced that, in all *chronic* cases, the physician should use his judgment and experience in estimating how much time and effort will have to be expended in handling that case, and then charge a *flat fee*, payable in *advance*. This is the fairest arrangement for the patient, as he will not wander away to some other doctor (thus losing all the time and money already spent), just about the time when one's treatment (which works slowly in such cases) is beginning to take appreciable effect.

The physician has always been a notoriously poor business man, but it is time for him to erase that stigma, in order that his services may be recognized at somewhere near their true value.—ED.]

## ★ Notes and Abstracts ★

### The Problem of the Verbal Agreement

"I CAN'T pay cash right now, if I was to be hung for it, but I'll endorse over Henry Smith's note for \$100 in my favor," the patient suggested, and Doctor Medico asked the standard question.

"Is Smith good for it?"

"Good as gold," was the positive reply. "Owns his house and hasn't got the scratch of a pen against a thing."

"Endorse your note, then."

"Of course, I want you to agree not to come back on me, but to look to Smith when the note falls due," the patient urged.

"Yes, I'll agree to that," the doctor concurred.

The note fell due, the doctor ascertained that Smith wasn't worth suing—and entered suit against the patient as endorser of the note.

"You agreed to look to Smith, and not to try to hold me as endorser," the patient protested.

"I don't deny that, but you misrepresented Smith's financial standing, and, to put it bluntly, your lie cancels my agreement," the doctor retorted.

When the case came to trial, the patient went into the witness box and started in to tell of the agreement between the doctor and himself in reference to the note.

"I object, your Honor. The written endorsement on the back of the note must speak for itself and cannot be varied by verbal evidence of any different arrangement," Doctor Medico's lawyer objected.

"Objection sustained, the evidence rejected," Judge Enright ruled—and the judge was right.

"It is well stated that, as a general rule of law, oral evidence is not admissible to contradict or vary the terms of a written contract. And ordinarily, the written contract that is entered into by an endorser when he makes an unrestricted endorsement cannot be contradicted or varied by oral evidence," says one state Court in laying down the rule.

M.L.H.

### Defense Savings Bonds

Many physicians serve the armed forces abroad and at home; others serve their patients at home with equal fidelity; all share in the war effort. In addition, all should lend to the Government, that there may be sufficient money to pay for the necessary tools of war, by buying Defense Bonds and Stamps systematically and regularly, from now on, "for the duration."

There are three series of Defense Savings Bonds: Series E, F, and G. All Defense Bonds are registered in the name of the owner, and are payable only to him; consequently they cannot be sold or used as security for a loan, but they may be redeemed at any time. Defense Stamps range in price from 10c to \$5.00. They are negotiable and do not bear interest, but when as much as \$18.75 has been invested in them, they can be turned in for a bond.

### IMAGINATION IN BUSINESS

*Business will continue to duck into and out of trouble until it learns to make better use of imagination.*—GLEN BUCK.

Series E Bonds are called "People's Bonds." They may be purchased only by individuals and may be obtained at any post office and almost any bank. A bond may be registered in the names of one or two individuals, or in the name of one person, with a second listed as beneficiary. The smallest of the People's Bonds costs \$18.75 and pays \$25 at the end of 10 years—a 33⅓ percent increase in value. The largest of this series costs \$750 and pays \$1,000 at maturity.

Series F Bonds are also appreciation bonds, but may be purchased by groups and associations, as well as by individuals. The cost of a Series F Bond is 74 percent of its face value, and the Government pays the full face-value amount at the end of the 12-year maturity period. The smallest bond of this series costs \$18.50 and pays \$25 at maturity; the largest costs \$7,400 and pays \$10,000.

The Series G Bonds cost the same as their face value, and pay interest semi-annually at the rate of 2½ percent. The G Bonds are issued in denominations of from \$100 to \$10,000. The F and G Bonds may be purchased only from Federal Reserve Banks and the Treasury Department, but most commercial banks will take applications for them.

Money invested in Defense Bonds and Stamps is backed by the full faith and credit of the United States Government. Our Nation offers an opportunity to every citizen and in turn, calls on every citizen for loyal support.

Washington, D.C.

TREASURY DEPARTMENT

Inclosed please find check for the renewal of my subscription to CLINICAL MEDICINE. I assure you that I would not want to miss a single copy of this interesting and exceedingly helpful journal. I file each copy and refer to them often and find just the hint needed. I also like the colorful cover that is being used this year.—H. T. D., Ohio.

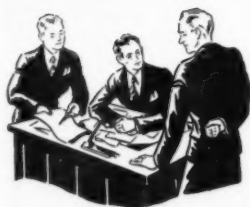
## ★ Books ★

### Collecting Professional Accounts

Ash

"... BUT COLLECTIONS ARE AWFUL." By ROBERT FOSTER ASH. *Binghamton, N. Y.: Privately printed, 1942. Price, \$2.00.*

IN THIS well-made little book will be found the details of about as satisfactory and practicable a system for collecting the financial rewards of professional labors as one will find anywhere. The author is an optometrist, but his plan, with slight modifications, should work equally well for physicians, dentists, or other members of the healing crafts. Anyone who is in a position to use the suggestions here offered may well find this volume the best investment he ever made.



# Clinical Medicine Graduate Course

## II Intestinal Obstruction

### The Internist's View of Intestinal Obstruction

By

RUDOLF SCHINDLER, M.D., Chicago, Ill.  
Assoc. Prof. of Med., University of Ill.

**I**NTESTINAL obstruction, in almost all its forms, is so definitely a surgical disease, that obtaining a surgical consultation is the paramount task of the practitioner as soon as any kind of obstruction is suspected. Prolonged observation is not justifiable, since every hour may count. The important *initial symptoms*—inability to pass stool and flatus, vomiting and colicky pain, visible peristalsis, and markedly distended intestinal loops—must not be overlooked.

#### Incomplete Obstruction

Partial intestinal occlusion by tumor, stricture formation, etc., may be difficult to diagnose in its early stages. Constipation, sometimes alternating with diarrhea, and colicky pain with visible peristalsis as well as vomiting, may suggest this condition. *Indicanuria*\* points to an obstacle, especially if it is located in the lower small bowel.

*Digital examination of the rectum* must be performed at once. A stricture of the rectum (carcinoma, syphilis, etc.) may be found. *X-Ray examination* must not be delayed. The introduction of the *Miller-Abbott tube* constitutes the greatest progress made in the diagnosis of obstructing lesions, and should be used frequently. It is a double-lumen tube carrying an inflatable balloon at its tip, and will be carried through the intestine to the site of occlusion, at which point its progress will be arrested. Injection of small amounts of barium through the lumen may then permit a more exact determination of the site and type of lesion present.

#### Complete Obstruction

*Mechanical ileus* may develop as the end-result of a partial occlusion; may be caused by obturation by foreign bodies (gallstones) or by fecal impaction; by intussusception; by incarceration of different types (internal hernias); by volvulus; and by compression due to intra-abdominal tumors.

The symptoms are much more dramatic than those of partial occlusion, and rarely will doctor or patient question that there is immediate danger to life. No stool or flatus is passed; colicky pain and initial vomiting are present; bulging of distended intestinal loops is visible; meteorism develops. The vomitus may become stercoraceous only on the second day or even later. *The diag-*

*nosis should be made before this occurs.* The general condition often is good in complete occlusion.

In strangulation, the symptoms are more pronounced, the pain being intense and not aggravated, but rather relieved, by palpation. Vomiting, singultus, local meteorism, rapid pulse, shock, and collapse develop. Peritonitis and secondary paralytic ileus terminate the sad picture.

In most cases the *differential diagnosis* is not difficult. The picture of *acute enteritis* is less severe and it is often accompanied by diarrhea. Fever and leukocytosis, in the initial stage, speak in favor of some *inflammatory disease*. In *renal disease*, such as stone or kinking of the ureter, blood will be found microscopically in the urine. *Torsion of an ovarian tumor* may simulate intestinal obstruction, but also requires surgical interference.

The *physical examination* should include palpation of the hernial rings. Rectal and pelvic examinations are absolutely essential. At x-ray examination, a simple film of the abdomen, without barium, may reveal typical fluid levels. The Miller-Abbott tube is of great diagnostic value.

*Dynamic ileus*: Paralysis of the bowel (paralytic ileus) occurs after laparotomies or abdominal trauma. It may complicate renal or biliary colics, embolism or thrombosis of mesenteric arteries, intestinal occlusion, and peritonitis. The symptoms are similar to those of mechanical ileus, except that, naturally, no peristalsis can be observed or heard by the stethoscope. *Secondary peritonitis develops rapidly*; therefore, paralytic ileus requires immediate surgery, also.

Spastic ileus will be discussed later.

#### Therapeutic Measures if Intestinal Obstruction Is Suspected

1. Consult the surgeon at once. *Every hour counts!*
2. *Do not give narcotics* before the patient has definitely consented to being operated upon. The sense of well-being caused by opium gives him a false sense of security. Hot applications may relieve the severe pain.
3. *Do not prescribe laxatives.*
4. Give an *intravenous infusion* of from 1000 to 1500 cc. of physiologic saline solution.
5. Add to this saline solution 4 Gm. of *sulfathiazole*. This will counteract infection of the peritoneum.
6. Prepare preoperative decompression of the

\*The test for indican can be easily made by the practitioner, and takes not more than one minute. One cubic centimeter of Obermayer's reagent is added to the urine in a test tube, and then shaken with chloroform. Blue color of the chloroform indicates an increased amount of indican.



intestine by the immediate introduction of a Miller-Abbott tube.

7. The decision as to whether the case is one of the very rare group in which medical management is preferable to surgical treatment should be made together with the surgeon.

#### Medical Treatment Is Justified in the Following Rare Conditions†

1. *Acute arterio-mesenteric compression* occurs after operations and in cachectic patients (after typhoid fever). This rare disease is due to compression of the duodenum between the spinal column and the aorta, posteriorly, and the mesenteric root anteriorly. It is characterized by enormous distention of the stomach, the contents of which are "overflowing." Gastric lavage will give immediate relief, and a cure will be effected by a change of posture (*prone or knee-chest position*).

2. *Low fecal impaction* may be discovered by the indispensable digital examination of the rectum. Masses of feces *below* an occlusion can be easily removed by a small enema. Fecal impaction usually requires digital or instrumental excavation—a disagreeable, not always easy, but life-saving procedure.

3. *Spastic ileus accompanying inflammatory processes*, especially terminal ileitis and acute sigmoiditis, is not easy to recognize if the symptoms of ileus are fully developed. Fever, leukocytosis, and localized abdominal tenderness may suggest the diagnosis. Treatment then consists of the use of *very large doses of atropine* (1 milligram, subcutaneously, and then 0.5 milligram every ½ hour). Morphine is an antidote against atropine intoxication.

*Case 1:* A 62-year-old, obese writer, with a serious decompensation of the heart, experienced a sudden hematemesis, after which the complete, unmistakable picture of acute ileus developed. A capable surgeon suggested immediate operation, but I was consulted.

No doubt acute ileus was present; however, the patient had a marked leukocytosis and fever, only a few hours after the onset of his symptoms; the sigmoid was tender, and this together with the initial hematemesis, suggested acute sigmoiditis with spastic ileus, rather than any other type of obstruction.

After the administration of 2 milligrams of atropine, I tried to convince my surgical friend that, in this special case, medical treatment might save the patient's life, because he might succumb to an operation. He was reluctant, but while we were deliberating at the bedside, the patient suddenly passed a thunderous blast of flatus, to our great mutual contentment. Two months later it became possible to demonstrate, at x-ray examination, the smooth pipe-like sigmoid, characteristic of remnants of severe inflammation.

4. *Spastic ileus accompanying intra-abdominal arteriosclerotic processes* is rare, but may be suspected if acute ileus develops in a patient with extensive generalized arteriosclerotic changes. Atropine therapy, as just described, may be attempted.

*Case 2:* A 67-year-old newspaper editor, who had suffered long from high blood pressure and generalized arteriosclerosis, suddenly developed an acute low ileus. He was a very bad surgical risk and, since the presence of spastic ileus was

suspected, an attempt at medical management, under constant supervision, was made. Large doses of atropine brought quick success. The patient recovered completely.

5. *True spastic ileus:* The psychogenic nature of obstructing spasms may be suspected if the patient has had several previous laparotomies with the same symptom complex.

## X-Ray Studies in Intestinal Obstruction

By

GENTZ PERRY, M.S., M.D., F.A.C.R.,  
Evanston, Ill.

WHILE the appearances of intestinal obstruction present a wide variety of shapes and shadows that are sometimes difficult of differential diagnostic interpretation, the x-ray studies furnish one of the most reliable and accurate means of determining the presence and location of an obstruction in the alimentary canal.

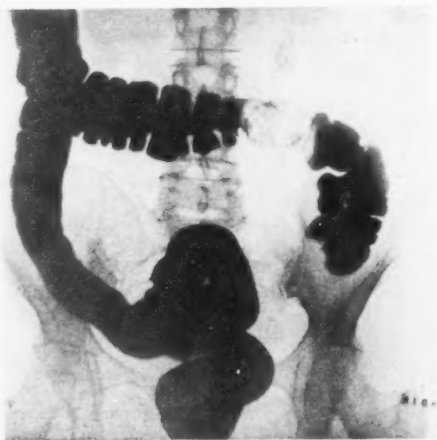


Fig. 1: Carcinoma of the colon near the hepatic flexure (postero-anterior). (The gallstones probably have no clinical connection with the case).

Dr. Pendergrass, University of Pennsylvania, lists, comprehensively, the following causes of intestinal obstruction: (1) congenital atresia; (2) imperforate anus; (3) benign tumors; (4) malignant tumors (see Fig. 1); (5) benign strictures; (6) gallstones; (7) foreign bodies; (8) enteroliths; (9) intestinal worms (see Fig. 2); (10) meconium, in the newborn; (11) fecal obstruction in the large bowel (Hirschsprung's disease, etc.); (12) compression; (13) adhesions or bands; (14) external hernia; (15) internal hernia—(a) diaphragmatic; (b) foramen of Winslow; (c) paraduodenal; (d) congenital hole in mesentery; (e) intersigmoid; (f) pericecal; (16) volvulus; (17) intussusception (see Figs. 3 & 4); (18) errors in development; (19) paralytic ileus; (20) spastic ileus—(a) neurogenic; (b) in infants; (21) mesenteric thrombosis and embolism.

†I feel that, in ileus caused by gallstone occlusion of the intestine, surgical treatment is indicated.



Because of our present war conditions, I am reminded of two cases of what may be termed a "traumatic ileus" that I saw in France, with the A. E. F., caused by a portion of the distal sigmoid being caught between fragments of badly fractured pelvic bones.

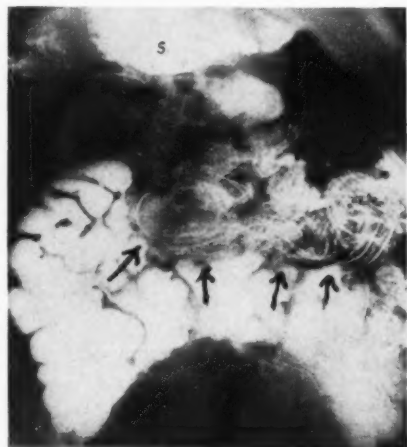


Fig. 2: *Ascaris lumbricoides* in small bowel (Courtesy of Dr. V. M. Archer).

The attending physician, by the clinical symptoms, history, etc., usually has an approximate idea of the location of the obstruction. At least he can usually tell whether it is high or low in the canal.

2. In studying the bowel distended with gas, we can differentiate the small bowel from the colon by the much finer transverse markings of the small bowel, as compared to the larger and more coarse haustral markings of the colon (see Figs. 5 and 6). It should also be remembered that the transverse markings of the small bowel become more and more coarse and farther apart as we go from the duodenum toward the ileocecal valve. The transverse measurement of the distended bowel is an unsafe criterion upon which to differentiate between the small bowel and the colon, because the small bowel is sometimes enormously dilated with gas, fecal matter, etc.

3. Any obstruction of the alimentary tract may, and usually does, produce quite unusual and bizarre appearances and changed relationships of various parts of the digestive canal. For these reasons, and because intestinal obstruction is always a very serious condition, we must use more than ordinary caution and patience in our x-ray studies of the patient.

It is best to begin the study of each case by making one or more (usually several) plain films of the patient's entire abdomen, in both antero-posterior and postero-anterior planes, when the patient is in the horizontal position, and a similar series of films made when patient is erect. Lateral-plane films of the patient's abdomen are often helpful. Fluoroscopic observations ordinarily do not give much reliable information unless we use some substance that is opaque to x-rays, introduced into the intestinal canal. It must always be borne in mind that the use of any of these substances is more or less dangerous and may lead to a fatal outcome of an already critical condition.

It is ordinarily best to begin our fluoroscopic studies by the introduction of an opaque enema, slowly given, with the patient lying flat upon the back under the fluoroscopic screen, so that the

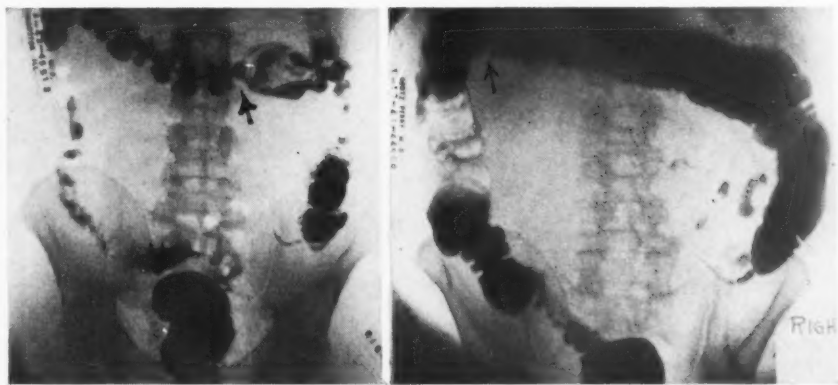


Fig. 3 (left) & 4: Intussusception in adults (see text), Arrows point to the upward extent of the invaginated ileum.

A single, plain x-ray film may be, but rarely is, sufficient to locate the obstruction. A few simple rules may be laid down to cover the further x-ray procedures to be followed in order to work out a differential diagnosis:

#### Special Studies

1. As a rule, the larger the accumulation of gas seen in the bowel tract, the farther toward the rectum is the obstruction.

observer can clearly see any partial or complete obstruction or any change in the form or position of any part of the canal up to the ileocecal valve.

This opaque enema should be moderately thin. Barium sulphate is most commonly used and it is well to incorporate some bland oil with the watery mixture of the barium, so that the oil may form about one-fourth to one-half of the mixture. Some form of electric mixer is best to use. Mix the barium and warm water first. When everything



Fig. 5: Comparison of transverse markings of the small bowel and colon.

is ready to proceed, add the oil, run the electric mixer again for one minute, and immediately introduce the enema, which should preferably be at a temperature of 100° F.

If any total or partial obstruction is seen, it is usually best to stop the enema at that point and then make one or more films to locate and show the form, etc., of the obstruction found. Very little, if any, of the opaque enema should be forced beyond the point of an obstructive lesion.

4. If the intestinal obstruction is not found by the procedures outlined, we next proceed to study the adult patient with the Miller-Abbott tube. In the hands of an experienced physician, this is not a seriously disturbing procedure. Care should be exercised to make sure that all of the passages within the tube are clean, clear, and unobstructed. From the stomach on down it should be introduced very slowly and very short but frequent fluoroscopic observations should be made to determine the progress and location of the tube. This procedure may take two or three days.

If this tube definitely stops at any point, after repeated efforts to pass it further, we may safely assume that, at that point, there is an obstruction. However, we should remember that another, possibly several, place or places of obstruction may exist beyond the one we have discovered. This is more often the case in the small bowel, where tuberculous lesions within the bowel or in the peritoneum may cause extensive, obstructive adhesions. Other forms of peritonitis may cause multiple obstructions.

In my own experience, syphilitic lesions, which occurred most frequently in the small bowel, are now rarely seen. This may be due to the more efficient treatments now used in this disease.

If the Miller-Abbott tube passes through normally to the ileocecal valve, we can feel sure that the obstructive lesion is in the colon.

While the limits of space for this article preclude the proper discussion of many important diagnostic matters, I want to repeat that, except in cases of definite pyloric lesions in infants, where the use of a very small amount of barium with the

feeding is safe, it is unwise and usually dangerous to give barium by mouth in cases of intestinal obstruction. Various other opaque substances have been used, but their use is to be discouraged. The use of the colloidal solution of thorium dioxide known as "Umrathor" may be among the least harmful of these various radio-opaque media, because a very small amount of it usually gives a diagnostic shadow. However, it is quite expensive and some authorities question the statement that it is nontoxic.



Fig. 6: Comparison of transverse markings of the small bowel and colon.

5. One more important lesion should be discussed in this article because it is often overlooked or undiscovered by x-rays, as well as by other diagnostic studies. This lesion is *intussusception* of the bowel. While more than half of these cases occur in children under ten years of age, we find an occasional case in patients of all ages. I recently found a case that went on to a fatal issue, in a man 72 years old. Another recently diagnosed case was found in a man 41 years old. This case was successfully operated upon.

While intussusception in young children usually produces complete obstruction, in the older patients it usually causes variable abdominal symptoms, more or less obscure, that gradually increase in severity, with recurring partial obstructions, until a complete blocking lesion closes the picture.

The x-ray appearances are equally variable and sometimes puzzling. Fig. 4 shows an advanced case that had been developing for nearly a year. Fig. 3 shows a case that has been developing, in an otherwise healthy man of 41 years, for at least more than one year. In both of these cases the arrow points to the upward extent of the invaginated ileum.

In closing I wish to state that it is always desirable to make at least several films of every case of this type and, if circumstances will permit, repeated x-ray examinations of the case should be made.

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## Pathology of Intestinal Obstruction

By

I. DAVIDSOHN, M.D., Chicago, Ill.

Associate Prof. of Pathology, Rush Medical College

THE manifestations of intestinal obstruction differ, depending upon a variety of factors, the most important of which are: (1) the location of the obstruction; (2) the condition of the blood supply; and (3) the rapidity of onset of the obstruction.

There are three large groups of intestinal obstruction:

- 1.—Mechanical obstruction with intact blood supply.
- 2.—Obstruction with damaged circulation (strangulation).
- 3.—Paralytic ileus.

### Etiology

1. *Etiology of mechanical obstruction with intact blood supply:* Foreign bodies; fecal masses; thickened meconium; intestinal parasites; gallstones (usually through cholecysto-duodenal fistulae, the stone usually being caught in the terminal ileum, which is narrower than the duodenum); benign tumors (mostly in small intestine); malignant tumors; benign strictures, usually due to regional ileitis, to healing tuberculous or dysenteric ulcers, to diverticulitis, to syphilis, or to lymphogranuloma inguinale; malignant strictures; compression by benign tumors (mainly fibromyomas of the uterus or mesenteric cysts); compression by malignant tumors (usually in the pelvis, by carcinoma of the uterus).

Mechanical obstruction may be caused by kinks due to peritoneal adhesions, postoperative, inflammatory, or congenital. Congenital intestinal obstruction (atresia) occurs in two forms: (1) the less common form is due to a diaphragm or veil obstructing the lumen; and (2) a blind ending of a segment of bowel.

2.—*Etiology of obstruction with damaged circulation:* The most frequent cause is *strangulation in a hernia*. Adhesions, mostly postoperative, are next in frequency as the cause of this type of obstruction. *Volvulus* belongs to this group, and is most common in the sigmoid with an excessively long mesosigmoid.

*Intussusception* is another cause of obstruction with strangulation. About 75 percent of these cases are ileocolic. In adults the cause is usually mechanical, due to traction by a polypoid tumor. In children, in whom it is more common than in adults, mechanical reasons (Meckel's diverticulum, polyps, etc.) are responsible for only a small number; in more than 90 percent an obvious mechanical reason can not be found. It is claimed that disturbances in peristalsis, due to intestinal infections, may be responsible.

3.—*Etiology of paralytic ileus:* Peritonitis, general or local; trauma, especially operative; toxemia of infections; and mesenteric thrombosis or embolism.

*Emboli* may originate in the heart or in the aorta, and then lodge in one of the mesenteric arteries, usually the superior, resulting in anemic necrosis of the bowel.

*Thrombosis* may be arterial or venous. The former usually develops on the basis of atherosclerosis and, less frequently, of periarteritis nodosa or thrombo-endarteritis. Venous thrombosis is

more common, and its results depend upon the size of the thrombosed vessel and the availability of collateral circulation. If it extends to main branches of mesenteric veins, and if arterial circulation is preserved, *hemorrhagic infarction* results. On opening of abdomen one usually finds a reddish fluid. The wall of the hemorrhagically infarcted bowel is harder than normal and dark purplish-red, with similar changes in the adjacent mesentery. The thrombosed veins can be felt as hard strands. Eventually necrosis of the wall sets in and bacteria and their toxins pass through the devitalized wall; peritonitis may develop without or with a perforation of the wall.

The effects of embolic occlusion vary. Sometimes there is *anemic necrosis* of the wall, sometimes hemorrhagic infarction, with corresponding differences in appearance. There is as yet no unanimity concerning the cause of the variations, especially with regard to the hemorrhagic infarction. Venous backflow and collateral arterial hyperemia are thought responsible, the latter probably being more important.

### Cause of Death

The earlier hypotheses regarding the cause of death in intestinal obstruction assumed the formation of toxins in the obstructed intestine, with absorption leading to profound toxemia. This explanation could not stand the test of critical analysis. Among the many causes that have been suggested, only a few can be mentioned here. The importance of *dehydration* and loss of chlorides has been demonstrated, especially for the acute, upper-intestinal obstruction. The results of dehydration are lowering of the plasma volume, with an increase of the number of red cells and of the hematocrit reading, increase of the plasma proteins, of non-protein-nitrogen, and of blood viscosity, and decrease in the sedimentation rate of erythrocytes.

The rôle of *distention* of the intestines has attracted considerable attention in recent literature, leading to important practical measures which aim at decompression of the bowel.

### Laboratory Aids in Diagnosis

In *high obstruction*, blood chlorides are usually low; there is often an alkalosis; and an increase of urea nitrogen and non-protein nitrogen. The number of red cells may be elevated, due to dehydration. In *low obstruction*, especially of the chronic type, there is usually indicanuria.

## Surgery in Intestinal Obstruction

By

WILLIAM Y. LEE, M.D., Lecturer in Surgery,  
Hahnemann Medical College,

and

FRANK TROPEA, JR., M.D., Philadelphia, Pa.

INTESTINAL obstruction remains one of the most rapidly fatal of surgical lesions. The object of this discussion is the brief presentation of standard and efficacious surgical practice, while avoiding all that is controversial.

One cannot emphasize too strongly the importance of early hospitalization in all cases of acute intestinal obstruction. If general practitioners can be impressed with the fact that intestinal obstruction is as much an emergency as is acute appen-

dicitis, a real step will have been taken toward reducing the mortality rate of this condition.

The usual case of intestinal obstruction admitted to the large general hospital has been obstructed for from three to seven days, or more, and therefore shows marked abdominal distention, accompanied by marked dehydration with demineralization. These cases are not simple, but *complicated* intestinal obstruction.

For purposes of clarity and simplicity, the following classification is offered:

1. Simple Intestinal Obstruction.
  - A. Uncomplicated (early)
  - B. Complicated (late)
2. Strangulation Obstruction.

### Simple Intestinal Obstruction

#### Uncomplicated

In these cases, the point of obstruction may occur anywhere along the course of the gastrointestinal tract. The etiology is variable, the most common causes being: (1) Cicatricial closure of the intestinal lumen (ulcer); (2) adhesive bands; (3) intra-luminal tumors; (4) intra-abdominal tumors causing compression on the lumen from without; and (5) internal hernias.

The earliest symptom, in most cases of simple obstruction, is *intermittent colicky pain*, which is usually generalized and attended by tenderness over the affected area. In *high* intestinal lesions, *vomiting occurs early* and is persistent; while in *lower* lesions, especially in the colon, *vomiting occurs late* and sometimes is absent for a week or more. One must keep uppermost in one's mind the important fact that *the absence of vomiting does not mean the absence of an obstruction*, as some believe; nor should the absence of vomiting erroneously lead one to believe that the patient is, therefore, well hydrated and balanced as to crystalloids and body proteins. Since a distended, paralyzed gut is nonabsorbing, and since from 10 to 12 or more liters of fluid are poured into the intestinal tract daily, these patients may, despite the absence of vomiting, become markedly dehydrated and depleted of important body minerals and proteins. The value of audible peristalsis as a diagnostic sign is questionable.

#### Management

Immediately upon hospitalization, these patients must be thoroughly investigated from the standpoint of *blood chemistry* (carbon dioxide combining power, blood chloride level, protein level, urea, and creatinine), urinalysis, a complete blood study, and a hematocrit test are made. If any of the normal findings are altered, immediate measures are instituted to return them to normal. If unaltered, the normal levels are maintained by proper *parenteral* administration of water, crystalloids, protein, and nutritional elements. *Nothing should be given by mouth*. In all small-intestine lesions, the use of the Miller-Abbott tube, while maintaining a proper fluid and electrolyte balance and normal blood protein levels, will markedly reduce the mortality rate.

The proper use of the *Miller-Abbott tube* enables one, first, to decompress the intestine to the point of obstruction (see Fig. 1) and, second, to inject a small quantity of *thin barium* at the point of obstruction. *Close cooperation between surgeon and roentgenologist is necessary for this intubation*. With such aid, one can more accurately localize the lesions pre-operatively, and one should always utilize the flat plate of the abdomen, as a diag-



Photo by Dr. Gentz Perry

Fig. 1: Roentgenogram of Miller-Abbott tube passed to the ileocecal valve. Three days were required for this procedure.

nostic aid in the localization of large intestinal obstructions.

Surgery, when instituted, is thus facilitated and is less shocking. Instead of markedly distended loops of small intestine bursting forth from the abdominal cavity at the same time, one handles relatively normal intestinal coils and can carry out the indicated procedure rapidly and efficiently. These measures are also preparatory for some *decompressing* operative procedure, such as cecostomy or transverse colostomy. In such cases, excluding deaths from malignant tumors, the mortality rate should be reduced, approximately, to from 5 to 7 percent.

#### Complicated

These are usually the late cases of simple intestinal obstruction, in which marked dehydration, mineral loss, and hypoproteinemia exist, too often to the point of being irreversible, even with the use of the most vigorous replacement therapy. *Abdominal distention*, in the low obstructions, is marked, and the distended intestinal loops, too long deprived of much-needed oxygen and nutrition, easily perforate. In this group are also classified the *inflammatory types of obstruction* (all forms of peritonitis) and *paralytic ileus*. The obstruction is usually evident.

#### Management

Vigorous attempts at replacement therapy and the use of the Miller-Abbott tube have saved many of these patients, who otherwise would undoubtedly have died. Surgery, when indicated, should be instituted only if a relatively normal balance is attained. In the large intestinal obstructions, operative decompressing operations (cecostomy, colostomy) should be performed *early*, as the mortality in this group jumps to the high figure of from 20 to 30 percent.

### Strangulation Obstruction

This group comprises 10 percent of all obstructions, and includes: (1) Strangulated hernias; (2) mesenteric thrombosis; (3) volvulus; and (4) intussusception.

This type of obstruction is usually diagnosed early, because of the acuteness of the onset. All, with the possible exception of strangulated hernias, which go through the process of irreducibility-incarceration-strangulation, present the picture of an "acute abdomen." The onset is sudden, with severe abdominal pain, attended by shock, tenderness over the affected quadrant, extreme rigidity, fever, and leukocytosis. Individual diagnostic features may, or may not, be present.

#### Management

Immediate treatment of shock by the liberal use of plasma or whole blood transfusion, if indicated, and the control of pain by the free use of

opiates should be instituted. A highly important procedure is the use of the Miller-Abbott tube, in anticipation of intestinal resection. Continuous decompression of the site of anastomosis, post-operatively, reduces the incidence of leakage from the suture line by removing tension from it. Early operation is imperative, and should be carried out under high-oxygen-content anesthesia, with a minimum of trauma, as rapidly as is surgically safe. Postoperative maintenance of the fluid and electrolyte balance and of normal blood protein levels, and continuous intestinal siphonage, are the most important considerations.

In this group, one finds the highest mortality—from 50 to 60 percent—which is probably accounted for by the age of the patient, the nature of the lesion, and the extensive operative procedures which are usually necessary to overcome the obstruction.

1113 Medical Arts Bldg.

### Intestinal Obstruction

HIGH intestinal obstructions are fatal early because of the large amounts of fluid and salt lost by vomiting, which is so characteristic of small bowel obstruction and not so outstanding in large bowel obstruction. Large amounts of saline solution should be administered para-orally to counteract this loss.

As long as the blood supply is intact, the obstruction is simple, and there is no appreciable transperitoneal leakage. When the bowel becomes strangulated, transperitoneal leakage occurs. Until this takes place, the patient usually remains in good condition, except in cases of high obstruction.

**Symptoms and Diagnosis:** In general, it is not uncommon to have the patient complain of vague abdominal discomfort and pain for a variable length of time before the acute symptoms take place.

**Treatment:** Obstruction of the large bowel differs in many ways from obstruction of the small bowel. Temporizing in the presence of large bowel obstruction is unwarranted, as the usual competency of the ileocecal valve converts the colon above the obstruction into a closed loop, and perforation at the cecum readily occurs.

Palliative operations, such as cecostomy, appendicostomy, and colostomy, are indicated to relieve the obstruction. At a later date secondary operation can be performed for removal of the obstructing mechanism.

#### Continuous Intra-gastric Suction

Continuous nasal suction siphonage, introduced by Wangensteen, is one of the most important adjuncts to surgical therapeutics that has been developed in the past decade. Its indications are primarily for bowel obstruction, of the mechanical or paralytic type. It is of inestimable value in stubborn cases of postoperative distention, and can be used preoperatively in gastric cases.

**Technic:** The essential features of the Wangensteen suction appear in the accompanying diagram (Fig. 1). An ordinary Levin tube with a special leaded tip, which is opaque to x-rays, is passed through the nostril and introduced into the stomach, more easily if the patient holds a mouthful

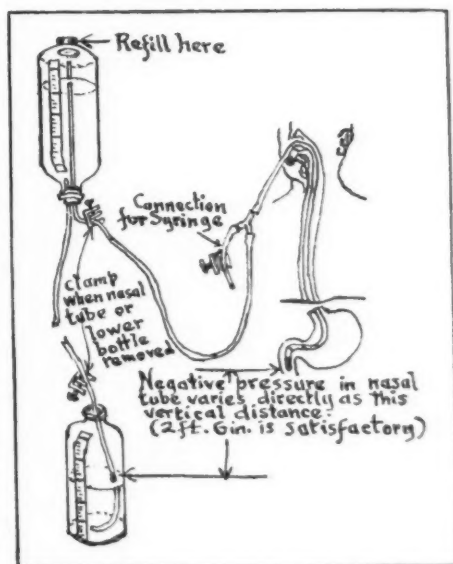


Fig. 1: Diagram of continuous gastric suction. The upper bottle is suspended in a canvas sling on a standard, at any convenient level higher than the patient's head.

of water until the tip of the tube is felt in the nasopharynx. If he then swallows the water, the tube will enter the esophagus and can easily be inserted into the stomach.

If it is essential that the tube be inserted into the duodenum (in case of severe mechanical and paralytic obstruction), the patient should lie on his right side and the tube should be advanced slowly. Occasionally amyl nitrate is necessary to relax the pyloric sphincter. Clamping the tube and giving sips of water every five to ten minutes may aid in the introduction of the tube into the duodenum.—WALLACE P. RITCHIE, M.D., in *Trends*, Nov., 1941.





## The Seminar

Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussions of any or all problems. Discussions should reach this office by the 5th of the month following the appearance of the problem. Send your problems and discussions to The Seminar Dept. care CLINICAL MEDICINE, Waukegan, Ill.

### Problem No. 2 (Urologic)

Presented by L. Greeley Brown, M.D.,  
Elizabeth, N. J.

(See CLIN. MED., Feb., 1942, p. 51)

**RECAPITULATION:** A man of 50 years complained of hematuria in January, 1941. He had had similar trouble in 1933, which was controlled by his family physician and did not return until September, 1940, after which time there was blood in his urine continuously until I saw him. Meantime he had seen a urologist, who had demonstrated no lesion by pyelography, but said the man had a stone or tumor in the right kidney and advised a blood transfusion and an operation.

When I examined him, with all indicated tests, the only abnormalities found were a blood pressure of 192/108, narrowing of the retinal arteries, and 5 percent of pure blood in his urine.

Vitamin K caused the intermittent disappearance of blood from his urine until March 30, 1941, when another urologist was consulted and reported that pure blood was coming from his right ureter and that pyelograms suggested a tumor of the right kidney. Nephrectomy was advised and was performed on April 7. The removed (right) kidney was small, slightly congested, and a pathologist reported it normal.

The patient recovered from the operation and went to work May 19. On June 11 he again began to pass blood in his urine every day, in spite of the administration of Styptisate.

**Requirements:** Suggest the diagnosis, treatment, and prognosis, giving reasons.

Discussion by W. B. Palmer, M.D.,  
Furman, Alabama

Every case of hematuria should be taken seriously and a thorough examination be given when hemorrhage is present, provided no acute inflammatory process, usually caused by gonococci, is present, when sulfathiazole should be given for a few days while the patient is kept under observation.

In all cases of urinary bleeding, whether gross or microscopic, a comprehensive view is essential, in order to find out the source and the cause. The origin may be outside or inside of the urinary tract. If it is outside, the hematuria may be caused by systemic or local conditions. These systemic conditions may rest on a hereditary background, such as hemophilia or other allied states; or acquired abnormal conditions, such as vitamin C deficiency; or perhaps a combination of hereditary and acquired factors, such as hypertension, with or without nephritis.

Hematuria may be due to pathoses in adjacent structures, such as abdominal tumors, appendicitis, or other inflammatory states, especially in women patients.

More than 95 percent of cases of hematuria result from some disturbance within the urinary tract. Among the leading causes are tumor (benign or malignant), tuberculosis, calculi, infections, and nephritis. There are many other causes, some due to chemical or physical trauma, or such rare occurrences as an angioma or varix of a renal papilla.

Examination of the urine is important. The three-glass test may be regarded as insignificant by some, but valuable information is often obtained in this way. Tests for occult blood should be frequent. For this the orthotoluidine test (Ruttan and Hardisty's test) is sensitive and can be made by the general practitioner. Cystoscopy should never be omitted.

The examination of this patient was no doubt complete, as the blood was seen coming from the right ureter. Ureteral catheterization, retrograde pyelograms, and other examinations often, but not always, give the information to reach a conclusion before the removal of the kidney. Hemorrhage may occur anywhere with such hypertension (192/108).

Bleeding from the ureter is most frequently caused by tumor, stricture, stone, or some chronic inflammation. Stones do not always cause pain. Papilloma or papillary epithelioma, of low-grade malignancy, may exist for fifteen years, with no invasion of contiguous structures or tendency to metastasize, but these tumors have implantation qualities.

A probable diagnosis: *Papilloma* of low-grade malignancy. The lymphatic vessels of the ureters go to the renal pelvis and aortic glands. However, those of the lower third of the ureters go to the iliac glands. There is free anastomosis of the lymphatics across the base of the bladder.

**Treatment:** After removal of the kidney, if this diagnosis is correct, extirpation of the ureter and the uretero-vesical portion of the bladder should have been carried out.

Discussion by L. E. Williams, M.D.,  
Kansas City, Mo.

Blood in the urine may come from any part of the urogenital tract. Hematuria is often painless and symptomless, requiring at times a very careful and painstaking search for its cause and source. In many cases the cause remains unknown and has been labeled "essential hematuria," "idiopathic hematuria," and "renal epistaxis." It is more common between the ages of thirty-five and sixty. Its appearance is not only distressing to the patient but of grave concern to the physician, as it may be an omen of renal malignant disease. It is most



often found in renal tumor, calculus, and tuberculosis. It is also found in leukemia, acute and chronic nephritis, blood dyscrasias, and in certain parasitic diseases of the tropics.

Dr. Richard G. S. Harris, in his article in the *Medical Journal of Australia* (Vol. 2) classifies the causes of hematuria as follows:

#### Renal

1. Calculus
2. Hydronephrosis
3. Tumor
4. Tuberculosis

#### Ureteric

1. Calculus
2. Stricture
3. New Growth

#### Bladder

1. Papilloma
2. Carcinoma
3. Calculus

Affections of the prostate and prostatic urethra, urethral strictures (intrinsic and extrinsic), urethritis, appendicitis, and seminal vesiculitis, may also cause hematuria.

Ray Mc. C. Bowles, M.D., F.A.C.S., writing in the *Medical Times* on "Hematuria" (Vol. 69, No. 2, 1941), gives the renal causes as follows:

#### Renal Injury

1. Contusion
2. Rupture

#### Inflammations

1. Pyelonephritis
2. Renal-Pelvic Ulcer
3. Turpentine Nephritis
4. Hypoplasia-Tuberculosis

#### Hydronephrosis, due to

1. Aberrant vessels
2. Stricture of ureter
3. Renal calculus
4. Carcinoma

Dr. Cabot cites a case of renal hematuria which was operated upon. One or two clots were found in the renal pelvis, and no other abnormality. The pathologist reported the kidney normal. The patient recovered from the operation, continued to pass blood in the urine, and died about three weeks after the operation. Autopsy revealed a gastric ulcer, but no cause of the hematuria was found.

In this case the hemogram is insufficient to rule out blood dyscrasia, as it should include the prothrombin time, fragility of red blood cells, retractility of the clot, blood-platelet count, and a blood serum calcium determination. The urine should be searched for oxalate crystals, to exclude oxaluria as a cause. Cystoscopy places the cause above the bladder and the operation seems to have ruled out everything except blood dyscrasia and chronic nephritis.

However, we know that the patient has hypertension, which may have been due to focal infection in the teeth. We also know that, in hypertension of long standing, the kidneys rarely escape damage. This patient, as a cabinetmaker, may have been compelled to inhale turpentine from the paints and varnishes. Turpentine is a renal irritant and some persons are more susceptible to it than others. I once had a patient who claimed that he could smell the odor of turpentine in his urine if he urinated a few minutes after inhaling the odor of fresh paint.

The finding of a small kidney is consistent with chronic interstitial nephritis. In most cases of hypertension, the ophthalmoscopic findings are simply a narrowing or streaking of the retinal arteries;

hemorrhages and exudates are less frequently observed. Dr. Mc. C. Bowles found one case of renal hematuria due to *turpentine nephritis* in the 100 cases seen by him, and that seems to be the most probable diagnosis in this case.

We should be informed:

What was the efficiency of the kidneys, revealed by the renal function test? Did the blood pressure increase following the operation? Is the blood coming from the left kidney or the right ureteral stump? Is the hemorrhage severe?

A knowledge of these facts would not only assist in the diagnosis, but would be of value in determining the treatment and making a prognosis.

My prognosis is fair. The treatment is rest in bed; theophyllin or phenobarbital for restlessness and hypertension; blood transfusion if the hemorrhage is severe; calcium and vitamins C, K, and P.

The patient should be advised to avoid coming in contact with turpentine.

#### Discussion by W. M. Drake, M.D., Breckenridge, Mich.

In the absence of any discoverable reason for the passage of the blood, even after incising the kidney, it would appear that there must be some point in the urinary tract where a blood vessel gives way from time to time, resulting in hemorrhage.

*Treatment:* Wash out the bladder with a 1:1000 solution of methylene blue, and follow that by giving by mouth, three times a day, a dose of methylene blue of sufficient size to color the urine. Continue the treatment for a week after all blood disappears, and then discontinue it. If the condition recurs, repeat the treatment.

Methylene blue is our best hemostatic, and is especially indicated in such cases.

#### Solution by Dr. Brown

I feel that the study of the pathologist was not sufficiently thorough to permit an unqualified acceptance of his report.

An older brother of this patient had been under my care in 1935, for symptoms associated with hypertension (228/126) and a ventricular rate of 114. I remember that this patient, on his first visit, had a blood pressure of 192/108 and that, during the first two weeks, this pressure dropped to 135/84, during which period the hemorrhage ceased, but not permanently.

To find out if intra-nephritic hypertension might be the cause of this bleeding, I proceeded to see what would happen if I would bring the blood pressure down as low as seemed advisable, with small doses ( $\frac{1}{2}$  to  $\frac{3}{4}$  grain—20 to 48 mg.) of sodium phenobarbital and belladonna and with psychotherapy. I also gave him vitamin B complex. Thus the pressure was reduced to 122/78, and the bleeding stopped.

This was on July 15, and so far (August 15), there has been no recurrence, and the patient feels and looks well. So my conclusion is that the condition was *apoplexy of the kidney*, which could be explained by the presence of congenitally defective blood vessels in the kidneys, or spasms of these vessels, causing a rise in the pressure, which resulted in rupture. When the systolic pressure rose above a certain point, hemorrhage would ensue and would continue until it fell to a lower point, which, in the radial vessels, was 122 mm. of Hg.

This theory is supported by the fact that, before the right kidney was removed, two urologists de-

(Continued on page 118)

# Clinical Notes



# and Abstracts

## Medico-Military Notes

### Physical Rehabilitation Program

TESTS of a physical rehabilitation program, intended to make many registrants who were rejected because of minor physical defects fit for active military service, have been authorized in Maryland and Virginia.

Authorization of the rehabilitation programs in the two States marks the beginning of a long-planned, nation-wide physical rehabilitation campaign. When the results of these pilot tests are evaluated, a date for the inauguration of the National program will be set.

Only those registrants whose disabilities are certified by the Army as being remediable will be eligible to undergo treatment.

As one of the first steps in the Maryland and Virginia test programs, the Director of Selective Service of each State will submit to National Selective Service Headquarters lists of physicians and dentists qualified to correct physical defects of registrants. Physicians and dentists designated to render these authorized professional services will be paid by the Federal Government.

National Headquarters emphasized that any physician or dentist can apply to be designated to assist in the rehabilitation program. Physicians and dentists not already designated by registrants as their choice for dental or medical treatment, and other physicians and dentists who wish to take part in the program, may obtain the necessary application forms from their local boards.

### Pneumonia in Army Camps\*

CONCENTRATIONS of young men in camps favor the development of epidemics, and *pneumonia* is the most common cause of death. In the winter of 1918-19, "influenza" caused 44,000 deaths in our camps, most of which were due to pneumonia; while the total battle deaths in the American forces during the World War I were only about 50,000.

At Fort Sheridan, this disease has not been important, so far, as we have had only 60 cases

\*Read before a regional meeting of the American College of Physicians, Chicago, Dec. 6, 1941. Abstract by G.B.L.

and one death in a camp population of 10,000. Of these cases, 30 were "virus pneumonia," which behaves like what we used to call "influenza," but is not so severe. Some patients have much the same symptoms (chiefly pharyngitis), but without lung involvement.

We have seen a few cases of *gradually-developing* "idiopathic pneumonia," which is refractory to all sulfa drugs.

Maj. EMMET H. PEARSON, M.C., U.S.A.  
Ft. Sheridan, Ill.

### Vaccinations in the Army

ALL members of the United States Army are now being vaccinated against smallpox, typhoid-paratyphoid fever, and tetanus; and on February 12, 1942, vaccination against yellow fever was added to this list. This last-named prophylaxis is being given as one injection of 0.5 cc. of diluted yellow fever vaccine.

### Blood Donors

THE average healthy man or woman can safely give a pint of blood for plasma banks once in three months. Theoretically it would be safe to give a second donation as soon as the hemoglobin percentage has returned to normal, which requires about 50 days, but if blood tests are not made regularly it is safer to let 90 days elapse between donations.—DRS. W. M. FOWLER and A. P. BARER, in the *J.A.M.A.*, Feb. 7, 1942.

### Commissions for Medical School Lower Classmen

FIRST- and second-year students in approved medical schools, and even accepted matriculants, can now be commissioned as second lieutenants in the Medical Administrative Corps, U. S. Army, but will not be called for active duty until their course is completed.

Applications for commissions will be made

through the deans of the various schools, who should be consulted by those who are interested.—*J.A.M.A.*, Mar. 7, 1942.

### Excluding Tuberculosis From the Navy

THE compact quarters on a warship make ideal conditions for transmitting tuberculosis, so strong efforts are made to keep men with this disease from enlisting.

The only safe criterion of freedom from tuberculosis infection is roentgenography, so all candidates for enlistment are thus examined, using the mass-survey method of fluoroscopy on 35 mm. film, described in the Sept., 1941, issue of *CLIN. MED.*, on page 214. All chests that show suspicious signs are carefully studied, with large films. This procedure detected 18 unfit men, out of 5,171, who had passed two stringent physical examinations.—ROBERT E. DUNCAN, M.D., in *Am. Rev. Tuberc.*, Dec., 1941.

## Headaches: Diagnosis and Treatment\*

ORGANIC causes of headache are rare. Seventy-five percent of headaches are caused by migraine or mental distress.

Psychogenic headaches are diagnosed and treated only by a complete history. If the physician assumes a sympathetic attitude and *listens*, the patient will tell the story and usually indicate the cause, which may be a marital upset, a feeling of being poorly treated, or an inferiority complex. The patient will complain of pain which occurs every day or during the day and night, yet will give no evidence of distress or loss of sleep.

**Vascular headaches:** The clinical symptoms of a vascular (histaminic) headache are (1) sudden onset and sudden termination of the pain; (2) unilateral pain, located in the temple; (3) congestion of the eye, eyelids, and nose, characterized by pink sclerae, unilateral nasal obstruction, and swelling of the eyelids; (4) absence of the nausea and vomiting so characteristically found in migraine; (5) increase of pain after taking alcohol or other vasodilator; (6) decrease of pain on injecting adrenalin, or occasionally, immersing the hands in cold water; and (7) artificial production of typical headache by the subcutaneous injection of a small amount of histamine. Pressure on the carotid artery on the affected side will relieve the headache.

**Treatment:** Desensitization with histamine di-phosphate will entirely cure vascular headaches. The solution of histamine should contain 0.27 mg. of the drug per cubic centimeter, and 0.25 cc. is given, in the morning and afternoon, for 10 or 12 days. These minute doses are readily taken without causing headache or other distress. In only one case out of a large series was it necessary to give adrenal cortex extract intravenously before histamine treatment could be begun. *Histamine will not affect migraine or other types of headaches.*

### Treatment of Migraine

We have had fairly good results with histamine, despite the fact that there seems no good physiologic reason for using the drug, in the treatment of migraine. Two tablets, of 10 units each, are given before each meal and before retiring. Migraine is readily differentiated from vascular headaches, because the only point of similarity is their one-sidedness. Migraine is associated with nausea and often vomiting; it is often preceded by visual disturbances or paresthesias of the extremities; it is slow in onset and in disappearance; it is never associated with vascular disturbances;

the pain is diffused over the whole side of the head; and it is not relieved by adrenalin, but rather by ergotamine (Gynergen).

### Temporal Arteritis

If a patient in the sixties complains of a pain in the temple, appears haggard, loses weight, and develops a slight fever, examine the arteries on the temple. Spontaneous thrombosis, with palpable induration along the course of the artery, appears in a few days. Spontaneous resolution occurs.

### Keratitis Sicca

If a patient complains of pain in the eye, do not think of a vascular headache, which produces pain in the temple, but consider an ocular condition. The presence of a red sclera, watery discharge from the eye, and many fine ulcers on the cornea (after staining with fluorescein solution) indicates that keratitis sicca is present. These minute ulcers are very painful, and they heal spontaneously. No known treatment is effective.

BAYARD HORTON, M.D.

Rochester, Minn.

## Treatment of Peptic Ulcer

THE treatment I use for ulcer of the stomach and duodenum is so uniformly successful and produces such quick results that I feel it should be published. So far as I know it is original with me.

The first case in which I used it, eight years ago, was that of a woman 60 years of age, who had such a severe hemorrhage from the stomach that no pulse was discernable, and another doctor who was called gave the family no hope whatever. She recovered promptly, has had no recurrence, and is now in good health.

I use a 1:1000 solution of *methylene blue*, which I had previously been using successfully as a hemostatic in nosebleed and other kinds of hemorrhage. It was this that suggested using it in gastric ulcer.

In the average case it is used as follows: The patient takes a glass of milk and one tablespoonful of cream every 3 hours, from 6 A.M. to 9 P.M., taking 1 teaspoonful of the solution, followed by a quarter of a glass of water, 15 minutes before each feeding.

Pain, no matter how severe, stops after a few doses. After 4 or 5 days, depending on the case, I direct the patient to add gruel, oatmeal, or almost any other breakfast food to his diet at

\*Presented before the Des Moines Academy of Medicine, Sept. 18, 1941. Abstract by R.L.G.

6, 12, and 6 o'clock; the other times taking only the milk and cream. At the end of one week on this increased diet, he is given a regular mixed diet, three meals daily, taking the medicine as usual before each feeding or meal. A week or two later the medicine is discontinued.

One patient, who had been in a hospital with an attack accompanied by a severe hemorrhage, had a recurrent attack a few months later and, after being treated by another doctor with the present recognized peptic ulcer treatments for several weeks, came to me saying that she was worse than she had been at any previous time and that the pain was "simply terrible." I did not give her a hypodermic injection of morphine, because she lived several miles out in the country and had to drive her car home. She was given the treatment I have outlined and, four days later, came in and reported that she had no pain after she had taken the second dose of medicine. Six 4-ounce bottles cleared up the case entirely.

As *methylene blue* is a stain, I advise the patient to put the spoon far back in the mouth when taking it, and drink the water after, so as not to stain the lips.

I have treated 13 cases by this method, and all, without exception, responded promptly to the treatment.

WILKIE M. DRAKE, M.D.

Breckenridge, Mich.

### Antipeol in Varicose Ulcers

THE number of agents and methods heretofore used in the treatment of varicose ulcers suggests that an ideal means has not yet been discovered.

In our study, Antipeol\* liquid and ointment were used, the liquid being applied as a wet pack for from two to five days, followed by twice-daily applications of the ointment. The cases selected were those with chronic varicose ulcers and those of diabetic and arteriosclerotic origin, unresponsive to usual methods of treatment and all showing infection at the base, as well as those associated with a fungus or caused by injury.

The most gratifying discovery was the rapid alleviation of pain, particularly in the varicose and diabetic ulcers. No untoward, irritating effects were noted. Inflammation was reduced, infection controlled, and granulation and healing took place in a relatively short time.

It is suggested, by analysis of the 25 cases studied, that Antipeol liquid and ointment are worthy of trial in the treatment of ulcers.—DRS. LINN J. BOYD and JONAS WEISSBERG, in *Med. Rec.*, Feb. 4, 1942.

### Eye Injuries

Slight blows or injuries to the eye or head may cause retinal hemorrhages, dislocation of the lens, or later traumatic cataracts. Small, piercing wounds within the cornea or near the limbus are often followed by serious loss of useful vision. Some knowledge of the use of the ophthalmoscope is needed, although one need not be expert.

*Examination of eyes after injury:* If both eyes work well together; the fundi are clear of hemor-

\*A sterile filtrate of *Streptococcus viridans*, *Str. hemolyticus*, *Str. pyogenes*, *Staphylococcus aureus*, *Staph. albus*, *Staph. citreus*, and *Bacillus pyocyaneus*.

rhage; the pupils are equal, round, regular, and react to light and accommodation; the eyeballs are of normal tension to palpation; and the patient can read 20/20 on Snellen test charts, there is probably no serious injury. Pressure or tension in the eyeball can be tested by feeling with the tips of both index fingers through the upper eyelid while the patient looks down; practice is obtained by testing for fluctuation on normal eyes.—A. K. FOSTER, M.D., in *Am. J. Surg.*, Jan., 1941.

### Ethyl Chloride Analgesia

THE patient is assured that, even though he is not asleep, he will feel no pain when ethyl chloride is given.

A mouth prop is inserted, and then a dry piece of "eye" cotton, about 1½ by 3 by ¼ inches is placed halfway back from the teeth in the oral cavity, on which the ethyl chloride is sprayed. If abscesses in the mouth are to be opened or teeth removed, the cotton guards against debris entering the respiratory tract. It is not large enough to prevent the free passage of air, or to be objectionable to children or nervous people.

As soon as the eyelids have closed and the patient cannot open them on command, the analgesic stage is reached. For oral surgery, the cotton is now pushed back into the posterior part of the mouth.

Ethyl chloride is not irritating to the respiratory tract. It should be used as an *analgesic* agent, not for anesthesia.—C. W. LINCOLN, M.D., in *N.Y.S. J.M.*, Jan. 15, 1942.

### Testosterone in Impotence and Prostatic Enlargement

THE effect of male sex hormone upon benign prostatic hypertrophy has excited widespread clinical interest and investigation. This hormone exhibits a large variety of physiologic actions of clinical importance, in addition to maintaining relief from the symptoms of hypogonadism and benign hypertrophy.

Because so many of the patients receiving male hormone commented upon their increased vigor and endurance, objective tests of dynamic work, static work, fusion of flickering light, exercise pulse rates, endurance, and recovery were carried out. Four patients (castrated and eunuchoid), showed the following results:

Dynamic work (lifting 8 lb. dumbbell)	76.7% increase
Endurance, static (holding dumbbell)	41.1% increase
Recovery after static work	30.0% increase
Finger ergograph (weight lifting)	45.4% increase
Fusion frequency of flickering light	9.3% increase
Excess pulse rate in dynamic exercise	19.0% decrease

It is evident from these findings that male sex hormone (administered as the orally-effective methyl derivative) has a distinct effect upon nervous and muscular function, increasing the work capacity and reducing fatigability.

When impotence has a purely psychic basis, the influence of male hormone may be considered doubtful. Older men are more apt to be benefited. While sexual readjustment cannot achieve much in the baldheaded, fat-bellied, thin-limbed, hard-of-hearing middle-aged man, the train of psychoneurotic symptoms, including impotence, occurs at various ages, following disappointments, failures, and exhausting illness. The reassurance of

psychotherapy, combined with the use of testosterone, often effects great benefit.

The relief of prostatic symptoms, particularly in patients in whom surgery is contraindicated or refused, includes the usual salutary effect on the nervous and muscular systems, subjective relief from frequency and dysuria, and varying degrees of improvement in the urinary stream. The average residual urine was diminished, in 16 cases, from 84 cc., before treatment, to 27 cc. after; while the increased tone of the bladder was shown by manometric studies in which the average intravesical pressure before treatment was 76 mg., and after treatment was 112 mg., by actual measurement with the patient straining. In this connection, also, it is stated that, when operation is performed, the postoperative use of male hormone has been an aid to recovery.

Male sex hormone may be administered intramuscularly; by inunction (since it is one of the substances that can be effectively absorbed through the skin), 4 mg. daily being recommended; and by mouth, using the orally-effective methyl compound. Other methods, as yet experimental, include subcutaneous implantation of pellets of the pure hormone.

A choice of the most suitable mode of administration may be made on the basis of the patient's cooperation, resources, and clinical response.—WALTER M. KEARNS, M.D., in *Wis. M.J.*, Oct., 1941.

### Treatment of Ménière's Syndrome

SOME patients with Ménière's syndrome (dizziness and deafness, occurring in attacks) are unduly sensitive to histamine. This sensitivity can be demonstrated by the intracutaneous injection of one drop of histamine diphosphate, and attacks can be produced by large injections of the drug. Desensitization and relief of dizziness are produced by minute, gradually increased doses of histamine, given daily.

Other patients are not sensitive to histamine, their attacks being due to vasospasm, and vasodilator drugs, used in average doses, are very effective in relieving the attacks. Young persons should be given nicotinic acid, because of its pronounced vasodilator action, even on the capillaries. Elderly persons should be given thiamine chloride, because old persons do not tolerate drastic dilatation.—E. E. N. & T. M., July, 1941.

### Physical Therapy in General Practice\*

**Home physical therapy:** In diseases requiring daily treatment, its application in the home is important. Atrophy following fractures, arthritis, peripheral vascular disease, skin diseases, trauma, nerve injuries, amputations, ulcerations of the extremities, and deformities must be treated in the home and office, using rest; the application of dry or wet heat, in the form of rubefacients, infrared rays, hot wet packs, paraffin contrast baths or massage; active and passive exercises; posture; and occupational therapy. The patient must be given detailed instructions as to exactly what is to be done.

**Office procedures:** Dermatologic conditions best treated by physical therapy are acne, eczema, fur-

unculosis, lupus, folliculitis, psoriasis, indolent ulcers, parapsoriasis, and pityriasis rosea. In erysipelas, heavy doses of ultraviolet radiation are almost specific.

In the infectious types of skin diseases, infrared radiation should precede ultraviolet therapy. *Large body areas should be treated with ultraviolet*, as much of the benefit is due to the formation of vitamin D in the skin, and local treatment alone will not be so effective.

**Acute infectious respiratory diseases:** Acute rhinitis and sinusitis are helped by general and intranasal ultraviolet radiation. Sinusitis in the subacute stage is influenced by short-wave diathermy applied antero-posteriorly to the skull, but should not be so treated if pus is present which cannot drain. Stubborn cases of *peritonsillar abscess*, which resist healing even though incised, will return to normal by using short-wave diathermy on each side of the cervical area. This is also true of *follicular tonsillitis*.

In *otitis media*, infrared radiation gives great relief, but should not be substituted for incision of the drum when pressure develops. Otitis externa responds to infrared radiation, followed by intraural ultraviolet irradiation.

*Ludwig's angina* is localized more easily by the application of hot wet packs and infrared radiation, as are also pyogenic infections of the nose and cellulitis of the face. *Chronic bronchitis* is favorably influenced by short-wave diathermy to the chest, but *tuberculosis must be ruled out first*.

*Acute pleurodynia* or dry plastic pleurisy, with or without pneumonic consolidation, is temporarily relieved by any form of heat, but is most benefited by diathermy, which has been used successfully in all three stages of *lobar pneumonia*; less successfully in bronchopneumonia; and is of great value in *lung abscesses*.

**Gastro-intestinal diseases:** Spasm of the pylorus is relieved by diathermy, to which *chronic cholecystitis* may also respond. *Spastic colitis* may be treated by diet, medicinal therapy, and short-wave diathermy.

**Urology:** There is clinical proof that diathermy promotes greater urinary output, when applied to the kidney area, in renal suppression, especially following operations or pre-operatively in cases of prostatic enlargement with high blood urea. Cystitis is helped by diathermy.

**Ophthalmology:** Diathermy has been beneficial to iritis, iridocyclitis, and traumatic uveitis. Patients with lesions of the cornea and acutely inflamed conjunctivas are made more comfortable. Artificial fever therapy has cured several infections of the uveal tract.

**Gynecology:** *Endocervicitis* can be controlled by the application of a copper electrode in the cervical canal, attached to the positive pole of the galvanic current. Simple *leukorrhea* also responds to this method. Diathermy of the long-wave type may be applied to the cervix in treating gonorrheal endocervicitis. Obstinate cases of *trichomonas vaginalis* infection, which fail to respond to the usual local treatment, may be quickly cured by applying the positive pole of a galvanic current to a vaginal packing saturated with a  $\frac{1}{4}$  of 1 percent solution of copper sulfate. The inactive pole is applied to any other part of the body.

**Orthopedics:** Restoration of function following trauma, fractures, or atrophy from disuse or nerve injuries, is highly important. Early passive motion and general manipulation are most useful in frac-

\*Hahnenan. *Mon.*, Jan. 1941.



tures involving or near the joints. Radiant heat or diathermy, prior to permanent removal of a splint, promotes circulation and improves muscle tone. Galvanic sine wave may be applied to muscles above and below a fracture, or to an entire extremity, during the course of bone repair. Following the removal of a cast or splint, where there is danger of atrophy, stiffness, or edema, radiant heat, massage, and sine wave are ideal. Where the fracture is compound, whirlpool bath treatment removes products of infection, reduces edema, promotes tissue healing, and limits the formation of adherent scar tissue.

Heat is indicated in fibrositis, myositis, subacute or chronic (never acute) bursitis, and tenosynovitis.

Chronic infectious arthritis may be treated by rest for the affected joints and for the entire body; local heat; massage; slow, rhythmic passive or active exercises.

J. J. KLAIN, M.D.

Philadelphia.

### Diet During Pregnancy

**D**URING pregnancy, a generous amount of meat is necessary for adequate protein intake. Eggs and cheese furnish additional protein and minerals. Mineral oil should not be given, as it dissolves and carries away vitamins A and D. Small doses of iodine are added, in goitrous regions. Coarse cereals, breads, and potatoes should be substituted for white flour and sugar. Small doses of cod-liver oil are of definite value during the spring and winter months. Calcium and concentrated vitamins should not be given routinely in large doses. Fresh, leafy vegetables and raw, ripe fruit are necessary for their vitamin and mineral content. R. J. MOE, M.D., in *Journal-Lancet*, June, 1941.

[There may be some difference of opinion in regard to the routine use of calcium and vitamin concentrates in these cases, but there can be little as to the importance of giving thyroid extract regularly, to most pregnant women—Ed.]

### Periarteritis Nodosa\*

**I**F a patient complains of severe, cramping pains in the legs, running up into the thighs (perhaps also in the arms, shoulders, and neck), with tenderness over the involved muscles and general weakness, and develops uremia, early and rapidly (within a week or two), think of *periarteritis nodosa* or *Kussmaul's disease*, and study the case carefully.

Other clinical symptoms of this rare and dangerous malady, which frequently kills before a diagnosis is made, are: Mild to moderate fever; polymorphonuclear leukocytosis, with moderate eosinophilia; a rapid sedimentation rate; and, sometimes, palpable nodules in the affected muscles and other parts of the body.

The differential diagnosis is chiefly from *Buerger's disease* (which develops more slowly and shows a normal sedimentation rate and no leukocytosis), and *trichinosis* (which shows a much higher eosinophilia).

\*Abstract of a talk before the Medical Round Table of Chicago, Feb. 10, 1942.

The treatment is purely symptomatic. A few patients recover.

ISRAEL DAVIDSOHN, M.D.

Chicago, Ill.

### The Seminar

(Continued from page 113)

terminated that the bleeding was coming from it; but when only one kidney was left, a similar situation developed. It might be that, while the vessels were defective in both kidneys, the defect was greater in the right than the left.

I have discussed this theory with the urologist who removed the right kidney, and he feels that it is the most plausible one we have considered.

### Problem No. 4 (Surgical)\*

Presented by B. C. Barnes, M.D.,  
Des Moines, Iowa

**A**N 18-year-old girl, of subnormal mentality, complained of epigastric pain which had become progressively worse. She was delivered of a healthy baby 2 years ago, after a normal pregnancy. Nine months ago, appendectomy and salpingectomy were performed for a similar epigastric pain, but without affecting it. She believed that she was jaundiced several months ago. Her general health was good.

A complete physical examination was negative, except for tenderness in the epigastrium and right upper quadrant. A complete laboratory examination of her urine, blood, and spinal fluid, and roentgenograms of her chest and spine were negative.

The epigastric pain radiated through to the back, in the midline, and was severe and "sticking." No relief was obtained by eating. After the sharp pain disappeared, there was a residual dull epigastric pain, partially relieved by external heat. There was occasional vomiting.

The roentgenologist reported that the stomach and duodenum were normal, fluoroscopically, and two films showed no apparent abnormality. Cholecystograms showed a normal contour and emptying after a fat meal. The roentgenologist commented that several small areas of decreased density were seen in the gallbladder shadow, but did not wish to make a diagnosis of non-opaque gallstones because the spots might be due to small amounts of gas in the colon (similar areas were seen in the transverse colon nearby). A second series of cholecystograms also showed areas of decreased density, when the colon was entirely free from gas; a definite diagnosis of gallstones was made; and operation recommended, which did not confirm this diagnosis.

**Requirements:** Give your tentative diagnosis, with reasons. What further information would you require, and why?

I am always happy to receive CLINICAL MEDICINE, as it has been a source of much needed information in my practice for the past forty-two years.—A. W. D., M.D., Miss.

\*Presented before a Hospital Clinic.



## Diagnostic Pointers

### X-Ray Diagnosis of Pulmonary Tuberculosis

● The early tuberculous lesion is usually located *below the clavicle* in the outer lung tissue, more often on the right than on the left, and in the posterior rather than the anterior part of the chest. The shadows are characterized by their *faintness*, being most dense at the center. Often there is accentuation or beading of the broncho-vascular trunk leading from the affected area to the hilum of the lung. The shape of the shadows is roughly spherical or conical. Lesions situated above the clavicle are rarely early tuberculosis.—R. G. GILES, M.D., in *South. Med. J.*, Jan., 1942.

### Cardiac Neurosis

● A cardiac neurosis is present when the heart symptoms complained of by the patient are not compatible with the physical findings. He may think his heart is diseased when it is normal, or may have an organic lesion with symptoms out of proportion to the actual damage.—RICHARD B. CAPPS, M.D., in *Bul. Chicago Heart Assn.*, July-Dec., 1941.

### Auricular Fibrillation

● Auricular fibrillation is almost the only condition which causes the heart to beat both rapidly and irregularly.—T. R. HARRISON, M.D., in *South. Med. & Surg.*, Oct., 1941.

### Malignant Growths and Infections

● A rapidly developing malignant growth may resemble an acute infection. It is red, hot, and may be tender. This is especially true of acute cancers of the breast and recurrent tumors of the skin.—J. S. WEINGARTEN, M.D., at Tumor Clinic, Des Moines, Ia.

● There is for each of us, according to our several abilities, an irreducible minimum of diagnostic errors, which we make as we go from patient to patient. Our obligation is to scale this down to a minimum, deriving what profit we can from our errors.—J. GARLAND, M.D.

### Abdominal Rigidity

● Abdominal rigidity has often been spoken of as localized to one quadrant or to one half of the abdomen. Careful measurement with a tensionometer shows that the rigidity (involuntary) is the same on both sides of the abdomen at the same distance from the mid-line. Voluntary rigidity varies, of course, with the presence or absence of a painful viscus beneath one portion of the abdominal wall. If the examiner will compare both sides of the abdomen at the *same distance* from the midline at the *same time* (by using both hands simultaneously), he will find that the rigidity is the same, unless a mass is present on one side.—D. H. WROCK, M.D., in *Proc. Staff Meet. Mayo Clinic*, June 19, 1940.

### Diaphragmatic Hernia

● An infant that vomits intermittently following birth, is restless, and has abdominal pains, should be suspected of having a diaphragmatic hernia. A roentgenogram will confirm the diagnosis quickly.—S. WOLFF, M.D., in *Brit. J. Child. Dis.*, Mar., 1941.

### Fever in Children

● Acute infections of the nasal sinuses, throat, and tonsils, in children, cause an elevation of the *oral* temperature above that of the body generally. This can be readily proved by taking the rectal and oral temperatures simultaneously.—W. R. SHANNON, M.D., in *Minn. Med.*, Oct., 1941.

### Bedside Weighing

● Bedside weighing of patients, before and after operation, gives valuable information as to the amount of fluid loss or gain. This should be done. If at all possible, it should be done frequently. The patient may be placed on a stretcher, which is carried to a standard scale, where a wooden block on the scale platform, supports it.

It is a common error to give patients too much fluid. Old or enfeebled patients, with impaired cardiac reserve, have a small margin of latitude for the tolerance of increases in plasma and extracellular fluid volume.—O. H. WANGENSTEEN, M.D., in *S. G. & O.*, Feb. 15, 1941.

### Colic in Infants

● Underfeeding is one of the most frequent causes of colic in infants.—P. C. JEANS, M.D., in "Infant Nutrition" (C. V. Mosby Co.)

# Thumbnail Therapeutics



## Methyl Testosterone By Mouth

● In two male patients, one a castrate and the other an eunuchoid, methyl testosterone, given by mouth in doses of from 20 to 30 mg. a day, produced, after 20½ and 17 months, respectively, changes in the genitals and secondary sex characters comparable to those obtained with testosterone propionate given intramuscularly. The convenience and reduction of office visits compensated for the larger amount of hormone required.—DRS. S. A. VEST and B. BARELARE, in *J.A.M.A.*, Oct. 25, 1941.

## Epidural Injections for Sciatica

● The injection in the epidural space (at the end of the sacrum) of 20 cc. of a 2-percent solution of procaine in almond oil gives immediate relief to 95 percent of patients with sciatica. Permanent relief (20 to 36 months, or longer) follows in 90 percent. Pain is relieved whether the sciatica has been present for 1 month or 7 years.—C. B. ODOM, M.D., in *South. Med. J.*, Nov., 1941.

## Ocular Folliculosis

● For the patient's use, in chronic cases of ocular folliculosis, prescribe:

R	Zinc Sulph.	0.06	(gr. i)
	Sod. Bibor.	0.20	(gr. iiii)
	Glycerine	10.0	(3 2¼)
	Aq. Rosarum qs	30.0	(3 i)

Sig.: Instill a few drops into the eyes three times daily, or oftener, if needed.—E. E. N. & T. M., May, 1940.

## Painful Varicose Ulcers

● The use of diets rich in vitamin B and the oral administration of 5 mg. (1,500 units) of thiamin chloride (purified vitamin B<sub>1</sub>) relieves the pain of varicose ulcers and other chronic painful conditions.—E. GORSIDE, M.D., in *J.A.M.A.*, Mar. 16, 1940.

## Vitamin B in Pregnancy

● The routine use of 15 cc. daily of vitamin B complex syrups available commercially resulted in a marked lessening of mild and severe toxemias of pregnancy. By comparing two groups of 98 patients, the control group of which received no vitamin B, it was found that the treated group tended to have lower blood pressure, better cardiac function, and larger retinal arterioles.—M. E. GROOVER, M.D., in *South. Med. J.*, Nov., 1941.

## Treatment of Severe Hiccup

● Severe hiccup may be treated by (1) barbiturates; (2) morphine; (3) a tight abdominal binder; (4) large intravenous infusions of fluids (5,000 to 6,000 cc. in 24 hours has often proved effective); (5) blowing in a paper bag and rebreathing the carbon dioxide, or inhaling carbon dioxide; (6) Wangensteen suction of the stomach and duodenum; and (7) unilateral or bilateral phrenic nerve section (evulsion later, if required), with cutting of all nerve filaments.—M. F. CAMPBELL, M.D., in *Am. J. Surg.*, June, 1941.

[The slow, intravenous, injection of Nembutal or other barbiturate has dramatically checked malignant hiccup in several cases.—Ed.]

## Sulamyd in Urinary Infections

● Sulfacetimide,\* a new sulfonamide, has been under clinical trial in my hands for the past year, and has been found to be more generally effective as a urinary antiseptic than any other drug so far encountered.—WILLIAM L. ROSS, JR., M.D., in *Northwest Med.*, Sept., 1941.

## "Scared Feeling"

### Cured With Thiamin

● Patients who constantly feel scared, are touchy, easily insulted, forgetful, and burst into tears on the least provocation, if they are found to be deficient in vitamin B<sub>1</sub>, can be relieved of these symptoms in from 30 minutes to 20 hours by injections of thiamin.—*Science News Letter*, Jan. 3, 1942.

## Vitamin C in Lead Poisoning

● The routine administration of 50 mg. of ascorbic acid (vitamin C) daily appears to protect workers exposed to lead dust (as in the assembly of automobiles) against the usual effects of chronic lead absorption, but it does not decrease their excretion of lead in the urine.—S. W. MARCHMONT-ROBINSON, M.D., in *J. Lab. & Clin. Med.*, June, 1941.

## Cavernous Hemangioma

● The injection of sodium morrhuate solution, with an ordinary hypodermic syringe and needle, is the treatment of choice for cavernous hemangioma.—W. P. RITCHIE, M.D., in "Essentials of General Surgery," (C. V. Mosby Co.).

\*Sulamyd—Schering.—Ed.



## THE DOCTOR'S STUDY

*Books come at my call and return when I desire them; they are never out of humor and they answer all my questions with readiness.*—PETRARCH.

### Pre- and Postoperative Care

Ilgenfritz and Penick

**SYNOPSIS OF THE PREPARATION AND AFTER-CARE OF SURGICAL PATIENTS.** By HUGH C. ILGENFRITZ, A.B., M.D., *Instructor in Surgery, Louisiana State University School of Medicine, etc.*, and RAWLEY M. PENICK, JR., Ph.B., M.D., F.A.C.S., *Professor of Clinical Surgery, Louisiana State University School of Medicine, etc.*, with a Foreword by URBAN MAES, M.D., D.Sc., F.A.C.S., *Professor of Surgery, Louisiana State University School of Medicine, etc.* St. Louis: The C. V. Mosby Company, 1941. Price \$5.00.

THE greatest advances in surgery during the past few years have been in the pre- and postoperative care of patients. This handy, pocket-size volume, one of the Mosby's Synopsis Series, succeeds very well in giving the practical information about fluid and electrolyte balance, shock, transfusion, systemic complicating factors, and common complications. The pathogenesis of each complication is outlined and the physiologic basis of treatment is discussed.

The second part of the book discusses the care of wounds and fistulae, surgery of the chest, brain and spinal cord, extremities, stomach and duodenum, biliary tract, and thyroid. The printing and illustrations are clear and well chosen. There is no surplus of words and no repetition. It is full of modern procedures which should be adopted by all surgeons.

### Avitaminoses

Eddy and Dalldorf

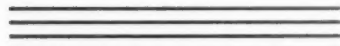
**THE AVITAMINOSSES.** The Chemical, Clinical and Pathological Aspects of the Vitamin Deficiency Diseases. By WALTER EDDY, Ph.D., *Professor of Physiologic Chemistry, Columbia University*, and GILBERT DALLDORF, M.D., *Pathologist to the Gravelands and Northern Westchester Hospitals, Westchester County, New York*. Second Edition. Baltimore: The William and Wilkins Company, 1941. Price, \$4.50.

EACH vitamin is discussed as to its nature and function, as well as the clinical and pathologic changes resulting from its deficiency, so that the physician can get a well-rounded view of the entire subject. A separate section deals with methods of studying avitaminoses. A complete list of foods is given, with the amounts of each vitamin it contains.

This book makes interesting reading for the physician who wishes to know.

## New Books

Any book reviewed in these columns will be procured for our readers if the order, addressed to **CLINICAL MEDICINE**, Waukegan, Ill., is accompanied by a check for the published price of the book.



### Clinical Hematology

Wintrobe

**CLINICAL HEMATOLOGY.** By MAXWELL M. WINTROBE, M.D., Ph.D., *Associate in Medicine, Johns Hopkins University; Associate Physician, Johns Hopkins Hospital; etc.* Philadelphia: Lea & Febiger, 1942. Price, \$10.00.

HEMATOLOGY seems a complex subject, but it is one about which every active clinician should be well informed and up to date.

This work brings together the accumulated information in the field in a systematic and orderly form, describes the newer methods which are of practical value, outlines details of differential diagnosis, makes clear the underlying physiologic disturbances, and describes the indications for and methods of treatment. Laboratory procedures, which can be carried out in the office of the average physician, are considered in detail.

The 167 illustrations and 7 fine color plates clear up points that cannot be adequately described in words, so that the general clinician will know just how to go about the study of his cases of blood disorders.

### Military Medicine

Medical Clinics of North America

**THE MEDICAL CLINICS OF NORTH AMERICA.** Military Medicine. Vol. 25; No. 6. Philadelphia and London: W. B. Saunders Company, November, 1941. Price, \$12.00 per year.

FOR the physician in the service, the one who may be called, and those who must stay at home and examine draftees, this volume is timely and absorbing. The problems of medical practice encountered in tuberculosis, communicable diseases, cardiovascular diseases, medical abdominal emergencies, military ophthalmology and otolaryngology, dermatology and syphilology, psychiatry, nutrition, improvised dressings and transportation of the wounded, chest roentgen-ray examinations, chemotherapy of acute infections, management of shock, treatment of burns, minor war injuries, foot disorders and gastro-intestinal problems, are discussed by experts in each field.

Helpful hints are scattered throughout the book, which are of value to the physician continuing in civil practice. Gibbon's photograph and roentgenogram of necrosis following the use of tannic acid on finger burns should be studied.

The use of plaster in the treatment of severe injuries and compound fractures is shown by Hodge. Plaster splints are placed in position before the circular turns of plaster are applied, thus making a lighter and stronger cast.

## Eye Treatment

Gifford

**A HAND-BOOK OF OCULAR THERAPEUTICS.** By SANFORD R. GIFFORD, M.A., M.D., F.A.C.S., *Professor of Ophthalmology, Northwestern University Medical School, Chicago, Ill.; Attending Ophthalmologist, Passavant Hospital, Wesley Memorial Hospital, and Cook County Hospital, Philadelphia: Lea & Febiger. 1942. Price, \$4.00.*

**H**ERE is a book for those who want to know what to do (other than surgery) for people with eye troubles. The whole emphasis is on treatment, as it is known today, which is much different from the best of 5 years ago.

Statements concerning the vitamins which were true in 1937 appear absurd today. The use of thiamine chloride in toxic amblyopia, of riboflavin in certain corneal diseases due to deficiency and other advances in our knowledge of nutrition have required a complete rewriting of the section on vitamins. Sulfanilamide and its derivatives, not mentioned in the previous edition, have so proved their value as to require a full discussion of their rationale, dosage, and specific indications. Studies of the sympathomimetic and para-sympathomimetic drugs have given fuller understanding of their mode of action. This subject is discussed fully in its theoretical and practical aspects, with consideration of newer drugs such as mecholyl, prostigmine, and furfuryl trimethyl ammonium iodide. And in other respects the book has been brought fully up to date.

This is an excellent work (with adequate bibliographies and index) for general clinicians, who want to really help their patients—and the price is moderate.

## The New International Clinics

**THE NEW INTERNATIONAL CLINICS: Original Contributions; Clinics; Evaluated Reviews of Current Advances in the Medical Arts.** Edited by GEORGE MORRIS PIERSON, M.D., *Professor of Medicine, Graduate School of Medicine, University of Pennsylvania, Philadelphia. Vol. IV; New Series Four. Philadelphia, Montreal, New York: J. B. Lippincott Company. 1941. Price, \$3.00 for current years; \$5.00 for back years.*

**T**HE combined use of mercurial diuretics and digitalis is much more effective in treating congestive heart failure than the use of either digitalis or mercurial diuretics (Salyrgran, Mercupurin) alone, states Keefer. Complete case histories are given of various types of cardiac decompensation and their treatment.

Friedenwald believes that easy exhaustion after slight exertion, an unaccountable mild secondary anemia, and mild indigestion should be viewed with suspicion as possible very early symptoms of gastric cancer. The dyspepsia may manifest itself as slight epigastric fullness, eructations, or anorexia, accompanied by a slight loss of weight. If normal amounts of hydrochloric acid are found in the stomach, there is only a 10 percent chance that gastric carcinoma is present.

The modern methods war surgery, non-renal uremia, pruritus ani, endocarditis, mesenteric adenitis and appendicitis, hepatic changes in hyperthyroidism, surgery of hemolytic jaundice and other interesting topics make up this volume.

## Laboratory Diagnosis of Protozoan Diseases

Craig

**LABORATORY DIAGNOSIS OF PROTOZOAN DISEASES.** By CHARLES FRANKLIN CRAIG, M.D., M.A. (Hon.), F.A.C.S., F.A.C.P., Col. U. S. Army (Retired), D.S.M., *Emeritus Professor of Tropical Medicine in The Tulane University of Louisiana, New Orleans, Louisiana. Philadelphia: Lea & Febiger. 1942. Price, \$4.50.*

**T**HIS is a manual of laboratory methods to be employed in the diagnosis of diseases caused by protozoan organisms, which are among the most important infections to which man is subject, and all of them are dependent upon laboratory methods for their accurate diagnosis.

The author has here assembled many valuable procedures which have hitherto been hidden in the pages of medical journals, and which have never reached our textbooks.

Here is a book which should be of real value to physicians who conduct their own clinical laboratories, to public health officers, and to laboratory technicians everywhere.

## Neuroanatomy

Mettler

**NEUROANATOMY.** By FRED A. METTLER, A.M., Ph.D., M.D., *Professor of Anatomy, University of Georgia School of Medicine, Augusta, Georgia. 337 illustrations, 30 in color. St. Louis: The C. V. Mosby Company. 1942. Price, \$7.50.*

**T**HE gross anatomy of the central nervous system and the microscopic anatomy are presented in separate sections. The peripheral nervous system and neurophysiology are discussed only incidentally.

The illustrations and the text have been closely correlated, which makes for easy study. Many line and stippled drawings are used to illustrate points not clearly shown in natural reproductions. Material and illustrations from many sources are included. The colored plates are of marked teaching value.

## Food and Beverage Analyses

Bridges and Mattice

**FOOD AND BEVERAGE ANALYSES.** By MILTON ARLANDEN BRIDGES, B.S., M.D., F.A.C.P., *Late Assistant Clinical Professor of Medicine and Lecturer in Therapeutics, New York Post-Graduate Medical School, Columbia University, etc., and MARJORIE R. MATTICE, A.B., M.S., Assistant Professor of Pathological Chemistry, Department of Medicine, New York Post-Graduate Medical School, Columbia University; etc. Second edition, enlarged and thoroughly revised. Philadelphia: Lea & Febiger. 1942. Price, \$4.00.*

**T**HE chief objective of this work is to provide analytical data on the largest possible number of food factors. Such information promises to be of the greatest assistance to the student of home economics, the dietitian, the nurse, the welfare worker, the industrial chemist, the medical student, and the clinician. For such workers it presents the practical facts in a readily understandable form.

## From Cretin to Genius

Voronoff

**FROM CRETIN TO GENIUS.** By DR. SERGE VORONOFF. *New York: Alliance Book Corporation, 1941. Price, \$2.75.*

**I**N THIS well-made volume, a world-famous gland surgeon steps out of the field in which he is an unquestioned authority into that of a highly attenuated and speculative type of biologic philosophy, in which he is so little at home that even his great reputation fails to carry conviction.

Few people are better qualified to write about cretins than is Dr. Voronoff, but not even he has identified the gland of genius, to say nothing of having transplanted it successfully into a mediocre person. In fact, his straining after a purely biologic basis for genius is far less believable than the explanation offered by the occultists.

Those who enjoy pursuing a group of largely baseless speculations to an inconclusive conclusion will enjoy this book. Few others will.

## Nerve Surgery

Davis

**THE PRINCIPLES OF NEUROLOGICAL SURGERY.** By LOYAL DAVIS, M.S., M.D., Ph.D., D.Sc. (Hon.), *Professor of Surgery, Northwestern University Medical School, etc. Second Edition, Enlarged and Revised; 208 illustrations; 5-color plates. Philadelphia, Pa.: Lea & Febiger. 1942. Price, \$7.00.*

**M**OST laymen and many physicians seem to feel that treatment of nerve lesions is rather hopeless. This excellent book is intended, primarily, to show general clinicians what the modern neurologic surgeon can do for these patients and to help them to diagnose and select cases for such treatment intelligently, and serves its purpose well.